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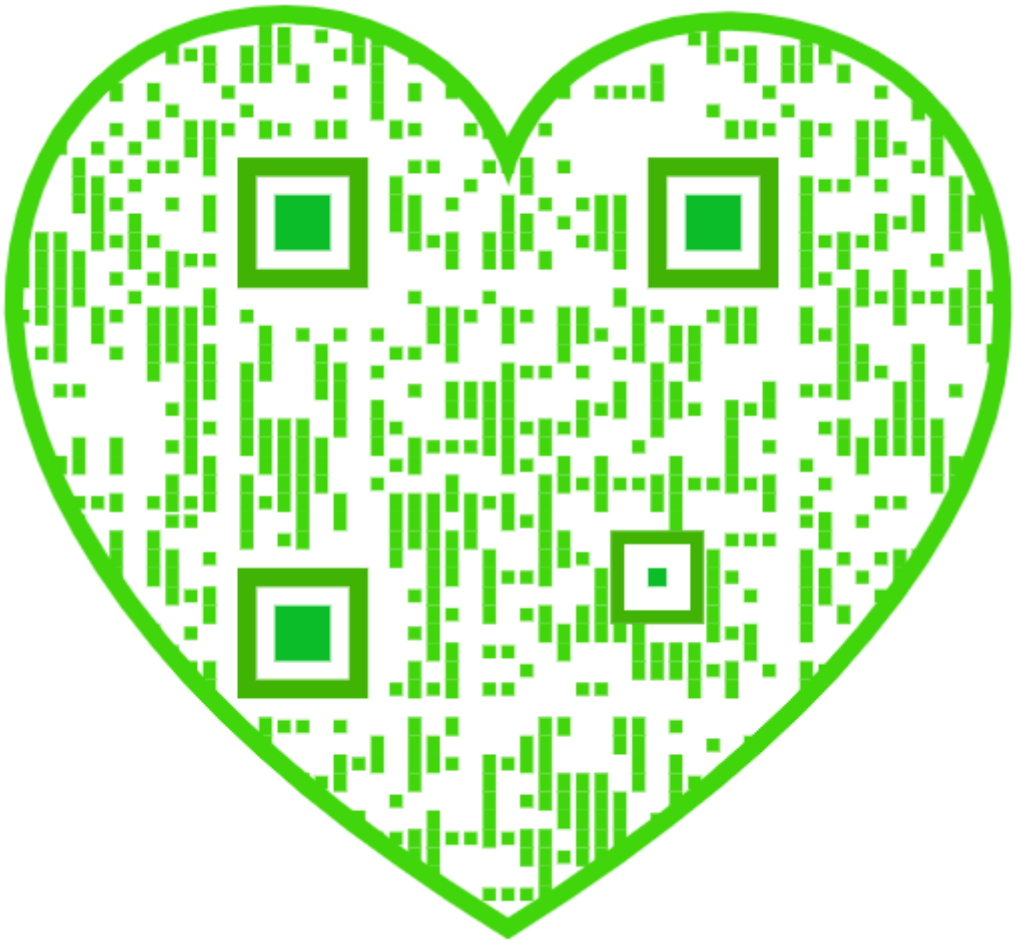

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The British

Bee Journal.

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Editorial, Notices, &c.

VOLUME TWENTY-EIGHT.

The New Year's heading, which makes its annual appearance to-day—besides denoting the opening of a new volume—serves to remind us how large a share of the progress made in the art of modern bee-keeping is covered by the intervening years since the BRITISH BEE JOURNAL first appeared, in the year 1873. As a matter of fact, the advancement made and the improvements in methods of management effected in those twenty-seven years far exceed anything previously recorded. But it would be both weak and foolish not to admit that perfection is still a long way off.

This applies to Bee Journalism equally with bee-keeping, but with regard to the former we cannot avoid a feeling of conscious pride in still possessing the confidence and staunch adherence of so many old friends and supporters, together with a constant accession of new ones. As already said, the mere lapse of time since the advent of the B.B.J. has seen many changes in the bee industry; but it has seen no change whatever in the ruling principles by which the policy of the B.B.J. is and has been guided under its present proprietorship. That this policy is both sound and just the present position of the paper amply testifies. Moreover, it is perfectly safe to say that if still further prosperity could be obtained only by the smallest sacrifice of its perfect independence of all trade interests, we should remain as we are for a long time to come. Our advertisers, too, know equally well with ourselves that there is no canvassing for orders, nor do we publish any of the many testimonials received regarding the value of the JOURNAL as an advertising medium. Yet we manage to secure most of what is going in that line, simply because advertisers know full well that there are few readers of bee literature in the kingdom who miss seeing either the B.B.J. or its monthly, the *Record*.

It is these facts then, that make us very grateful for the confidence reposed in the JOURNAL and its teachings, and also proud in having done something to merit the same.

With regard to work before us in the coming year, and the questions to which more than ordinary attention must be paid, the most important to our mind are those of buying and selling honey and of preparing the season's produce for market. That bee-keepers have much to learn in these respects a glance over the contents of some recent issues of the past year's volume will make abundantly plain. 1899 was a capital year for honey, following on the very bad season of the previous year. In '98 the small crop secured was so deteriorated in quality by the general admixture of honey-dew that it would have been greatly to the advantage of the craft if the whole crop so damaged had been left with the bees and not forced on the market at all. Many bee-keepers, however, chose to put up their poor stuff for sale, and no doubt hundreds of buyers got a taste of British honey such as they will not forget in a hurry. This has probably told more heavily than many suppose in lessening the demand for table honey; and, in order to sell at all, prices have been brought down to a point low enough to cause much natural grumbling.

As has been said over and over again in these pages, we shall never get all bee-keepers to regard prices of honey from the same standpoint, because what one man considers a fair price another

will reject at once. Moreover, we have it on indisputable evidence that scores—nay, hundreds—of our readers can still readily get their shilling each for sections and the same for 1-lb. jars of honey, while at the same time offers are made of equally good produce for less than two-thirds of that figure. This is what makes the publishing of current prices an impossibility, and it is only by the operation of associated effort in some form that any degree of uniformity, either in price or quality, can be hoped for.

The third point mentioned above, namely, *preparing honey for market*, is one on which more education is needed than in either of those already dealt with. Numbers of bee-keepers—many of whom are men not short of common sense—utterly lack the simplest aptitude for preparing honey for sale. Careless to a degree, they will use old, soiled, and dirty sections for storing the new season's honey in, the very look of which would cause their rejection for use on any decent table. If sent by rail they are often packed so badly as to be irretrievably damaged in transit, and so on.

All this sort of thing must, however, be done away with if honey selling is to be made a success. New sections of spotless whiteness must be used, and all disfigurements in the way of propolis carefully removed before being put up for market. Only such sections as are so built to the wood as to ensure safe transit must be selected. Each section, too, should be wrapped in what is commonly known as "butter-paper," and every means taken to copy the style in which goods of all similar kinds are prepared by the large packing-houses who deal in such. The same with honey in glass jars; leakage must be stopped and cleanliness ensured. It is by such means as these that the trade in British honey will be fostered and developed and fair prices obtained for our product. Moreover, it is only by the adoption of such business methods as are comprised in the details we have mentioned that our best honey-sellers are successful.

We shall again return to the subject as the year goes on, and hope to see a marked improvement in the British honey-selling trade before the close of the first year of the new century.

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on the 21st inst., Rev. J. G. Digges in the chair. The subjects chiefly discussed related to the sale of honey, and instruction in bee-keeping given in National Schools.

Mr. Chenevix, who has for some time wished to retire, formally resigned the offices of secretary and treasurer, and will be succeeded on January 1 by Mr. M. H. Read, of Clonoughlis, Straffan Station, co. Kildare.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C."*

*** *In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3870.] A season's greeting to all our friends and readers. May the New Year prove a prosperous one to every bee-keeper, and as we start a new century this week with the new year it will be an opportune time to make new resolutions by which to live and to work in the future.

Honey Sales.—I gather from my own experience and through friendly correspondence that sales of honey have been slow during the past two months. Why this should be so it is not easy to tell, though I have noticed the same thing for several years past, viz., that November and December are not good months for the bee-keepers' trade, and as there does not appear to be a large consumption of honey late in the autumn, sales must necessarily be slow, as no tradesman wants to buy what will not sell readily unless he gets a chance lot at a cutting price much below its fair value. I look forward, however, to an increased demand with the incoming of the new year, because the late cold weather will probably have cleared off much of the stock in the hands of dealers. The small value of honey imported in November last also tells the same tale that there is no market for honey in any quantity. I should advise every bee-keeper to invest in one or two of Mr. Rose's window tickets and fix same on the inside of his window, "Honey

from our own bees for sale," this will clear off some, if only a few pounds every week, but everything that helps home sales will assist in spreading the trade and increasing the number of consumers.

Buying Honey.—I, too, have had requests to forward parcels of honey to persons of whom I had no previous knowledge, but when the request for cash before delivery is sent I have not heard anything further from them. Some two or three years ago I was foolish enough to send a parcel to a lady (?) with a West End address, who used the best embossed writing-paper and initialed envelope, but whose signature was Mrs. Islip, which I found to be genuine, for the party developed into a real I-slip. The best method of dealing with this class of customer is to insist on cash before goods are sent out, or else have a banker's reference. Next to this is the "deposit system" as managed by the B.B. JOURNAL.

The Weather.—The sharp spell of cold weather has kept the bees in confinement, and a few fine days will be appreciated for a cleansing flight. When the warm days come the opportunity may be taken of giving a cake of candy where required and also of renewing the wraps if they are wet or damp from rain or condensed moisture; and when the sun is shining and a brisk drying wind blowing the top covers may be removed for a few hours during the middle of the day. This will sweeten up the cushions and wraps and give the roofs an airing and drying-out also; and where any leakage has been discovered the cracks should be mended. A patch may be put on, say, with a lump of pitch and a strip of calico and an old flat iron just hot enough to melt altogether; then a little sand sprinkled over the top and ironed again, and then a coat or two of paint, will make all taut against rain or snow.

Tits have been troublesome recently, and also mice. Traps I find the best remedy in both cases. The tits are partial to a lump of suet and mice to a morsel of cheese.—W. WOODLEY, *Beedon, Newbury.*

BUYING AND SELLING HONEY.

[3871.] Your editorial in last week's JOURNAL should be of yeoman service to our craft, if only those it most concerns would but "read, mark, and learn."

Although I had a goodly surplus of honey from my own bees this season, I had not sufficient by about a hundredweight for my requirements in the near future, and I therefore advertised in the columns of the B.B.J. inviting quotations and samples. By the first post, to my unpleasant surprise, I received a lot of, for the most part, untidy and disreputable-looking packages of all sizes, sorts and conditions, which upon the slightest touch made one at once aware of the sticky nature of their leaking contents. I do not think I am considered fastidious, and I have a great reluctance to grumble, or to ventilate a complaint through the columns of the public press, and it is with a sincere feeling of regret, but with an earnest desire that some good may result, that I refer to this subject.

Some of the samples were evidently honey in a granulated or candied form *when despatched by the senders*, but as the only protection was thin card boxes, the honey had melted in the course of transit and oozed out at every corner, while perhaps the thinnest sample of all was in a bottle minus cork or stopper, but tied over with tissue paper, which on arrival was nothing more than pulp, of course. There were also several very thin glass bottles, which had been entrusted to the tender mercies of the Post Office wrapped in a sheet of ordinary paper only, with the stamps affixed to the parcel itself instead of to an attached label. The result of obliterating the said stamps had been to smash the bottles, thus producing a sticky mess of honey mixed with broken glass, torn paper, and bits of string, &c. And with a few exceptions, many of the samples suffered from a regrettable lack of strict cleanliness, while others contained particles of foreign substances, and some had been so badly managed as to be in a state of active fermentation or worse.

A particularly suspicious sample I sent to the Editor of the B.B.J., only to be confirmed in my own opinion that it was "quite unfit for table use."

If this condition of things exists to any great extent—and I fear it does—it certainly accounts for the prejudice some persons have against honey, and explains also why so much remains unsold and the difficulty some of our bee-keepers seem to have in disposing of their produce. In no other business or pursuit worthy of a name is such an absence of care and neatness in putting up samples apparent.

To resume. There were some homely-looking jam jars, rather small, certainly, but of patterns various and colours strange, and a kind of nondescript gallipot, not to mention several ancient vials of shape really wonderful, antique and rare.

Altogether, I have quite an interesting and unique collection of utensils, and the contents are almost as varied; and I can say with Mrs. Partington (or was it Sairy Gamp?) "Sweet are the uses of *advertisement*." Apiarists should ever remember that from the sample the bulk is judged, and for their own credit's sake should see that it is scrupulously clean and neat, bearing in mind that they cannot be too particular where an article of food like honey is concerned. It is so easy to put up a small quantity in a clear glass jar or bottle—a couple of sheets of parchment, moistened with milk or white of an egg, makes an air-tight cover—while a sheet of corrugated paper and a housewife's discarded tin canister are all that are required to protect it from the roughest

usage, and to ensure its safe and speedy arrival at its wished-for destination.

Now, I have not exaggerated anything, nor have I "set down aught in malice." The proprietors of our esteemed little paper know only too well that many samples reach them in the unsatisfactory state I have referred to; and wishing the Editors, the staff, and the readers of our BRITISH BEE JOURNAL all happiness and prosperity in the New Year of 1900.—J. EDMUND RODEN, *Quatford, near Bridgnorth, December* 26, 1899.

SELLING EXHIBITS AT SHOWS.

[3872.] I have read with considerable interest the articles appearing in the BRITISH BEE JOURNAL *re* buying and selling of honey, and although what I am about to relate hardly comes under that heading, still in my opinion it deserves the utmost publicity.

At the seventh show of honey held in connection with the . . . . . Horticultural Society's annual show held at the end of August last I had an entry in the Champion class, and by an arrangement (to save trouble of repacking) this exhibit was to be sold.

A few days after the show I had a postcard from the secretary stating that the honey had been disposed of, but up to present I have failed to get the price of it.

After waiting for about a couple of months I wrote the secretary, Mr. . . . . , and later on the President, Mr. . . . . , both on the subject of non-payment of . . . . . , but neither of these gentlemen have had the courtesy to reply to my letters.

Should this meet the eye of any Scottish member of the craft in . . . . . or members of the society, perhaps they will kindly furnish, through the medium of your columns, their opinion on the treatment I have received.—A NORTH-COUNTRY EXHIBITOR, *December* 25.

[We are at all times extremely reluctant to publish the name of a society or of its officers in cases like the above without first hearing what there is to be said on the other side. Consequently we have omitted names, &c., but will forward a copy of this issue to each of the gentlemen named, and hope to get, in reply, some satisfactory explanation of the delay in payment for publication. We have less hesitation in following this course because our correspondent, though sending on his name and address (not for publication), has himself chosen to write under a *nom de plume*.—EDS.]

SELLING HONEY

ON COMMISSION BY FLOWER SALESMEN.

[3873.] I am surprised that other bee-keepers have not disposed of their surplus honey through flower salesmen as I have, and then given their experience for the benefit of their fellow craftsmen. I only started in business here twelve months ago as a gardener-florist, and thought I could add to my income by keeping bees. I have twenty stocks, and, of course, wondered where to dispose of my surplus honey. I have been sending flowers and fruit to a firm in St. John's Market, Liverpool, throughout the year, and finding them reliable and honest in their dealings I asked them if they could sell honey for me. They replied that they thought they could. On October 27 I sent them some 1-lb. and ½-lb. pots. They realised 8s. per dozen for the 1-lb. ones and the same rate for ½-lb. I have sent two consignments since. I have also been sending flowers, vegetables, and fruit to a tradesman in the same line in Market-street, Nottingham, and he has sold several consignments of extracted honey at 8s. per dozen 1-lb. jars. This may not be a high price when carriage and commission is deducted, but as I pointed out before, you await no orders, but send when you want to get rid of the honey or need the cash. Of course no one can guarantee the price, but the Liverpool firm have since written to me saying they were taking another bee-keeper's honey from Wales, whom I had recommended to them, and my Nottingham customer has written asking me to send more honey, which I cannot do, as I have not much left.

Now a word as to the "get up" of my honey. I have had a mixed lot of bottles; one consignment was tall tie-over jars with cork wads, another without the corks, a third 1 lb. jam jars tied with butter paper. All had a label on guaranteeing the honey with my name and address stamped on it. From this it appears that the type of glass jar matters little, as the price is the same. The boxes supplied by salesmen for flower packing are 5 in. deep, 21 in. long, and 14 in. wide, a tall jar will not stand up in them but the jam jar does; in future I use all jam jars 4¾ in. high. I feel sure this is one of the best methods of disposing of honey, and at any rate it suits me. I have one box of violets for market perhaps, carriage would be 1s., I can send two dozen of honey with it, carriage altogether 1s. 3d. I should think honey selling would suit the salesmen, as it is valuable stuff easily sold, and if they could receive a regular supply they might obtain even better prices, because it would attract regular buyers.—W. J. BELDERSON, *Terrington, Norfolk, December* 25, 1899.

(*Correspondence continued on page* 6)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The pretty little cottage and its bee garden adjoining, seen on next page, is the first representation we have so far had of a Cornish apiary among the "Homes of the Honey Bee;" and its owner, Mr. John Brown, occupies the

unusual position of having built, not only the hives, but the cottage as well. Our friend tells us he is a naval pensioner, and his work adds one more illustration to the versatility of the naval man, who, it is said, is "able to turn his hand to anything." When forwarding the photo, Mr. Brown wrote as follows:—

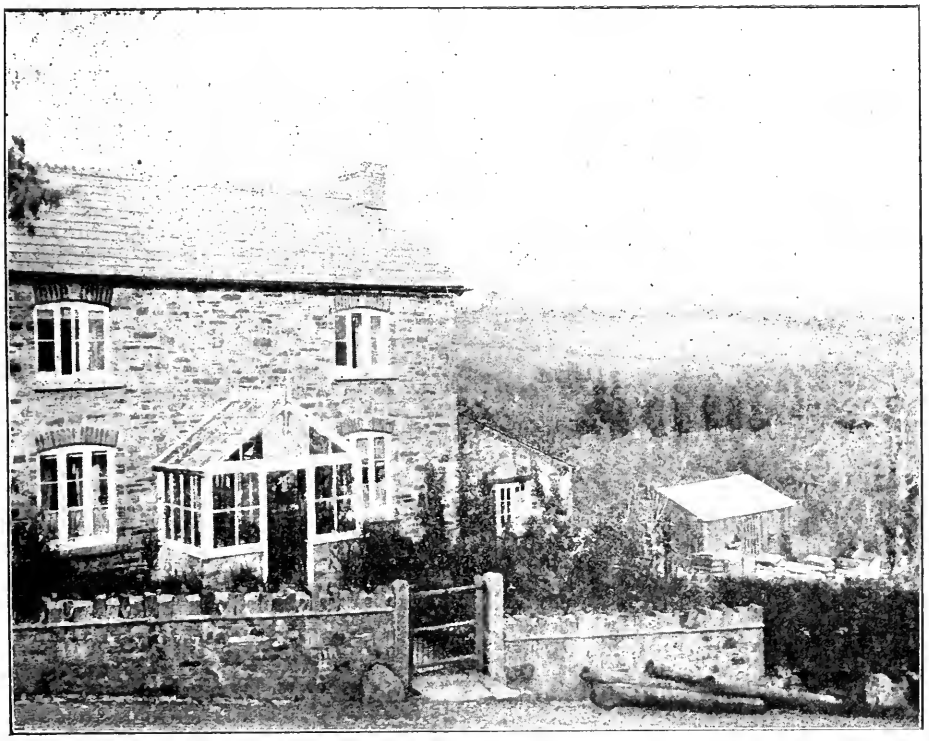
"I started bee-keeping in the year 1882, after hearing a lecture in the bee-tent at Launceston, by the well-known expert of the B.B.K.A., Mr. Baldwin, who was then in his prime.

"Living in a sparsely-populated agricultural district, my knowledge and experience of bee-keeping has been gained under difficulties, having no advanced bee-keeper near to help one on or to give a few kindly hints; but the B.J. I always found helpful and welcome, and now that the difficulties have disappeared, I suppose I may style myself a full-blown bee-man, holding, as I do, the third-class certificate of the British Bee-keepers' Association.

"The cottage shown in photo sent was built by myself with the assistance of my two sons; the hives also in the apiary lower down the hill being all made by myself; and here it is where my wife and self are spending our days in rural quiet and simplicity, occupying ourselves with our little holding and its surroundings, not the least of these surroundings being the bees. I also do the practical work of managing the hives of many other bee-keepers located in our neighbourhood.

"My apiary, in 1897, consisted of nine stocks, spring count, from which I received cash for honey sold that year, £15 2s. 8d. We considered the working expenses of the apiary were paid in full by the use of honey on the breakfast and tea table all the year round, by payment of little kindnesses to neighbours and children for errands, &c., and occasional presents to relatives and friends, so I will not trouble you with the particulars of yearly outlay.

"In the following year my apiary had increased to thirteen colonies, and so good have been my harvests that I have still a good quantity of honey for use and sale, but that I cannot give figures of what my bees were worth to me that year. I am fortunate in having a situation, with a southern aspect, on the side of a hill for my apiary, so that the sun is shining on us all day long, and as our cottage is on the roadside we have many callers on bee matters, you may guess. The distance from the hives to the road is about 20 yards. The shed seen behind the hives in picture is where I do carpentering jobs; and



MR. J. BROWN'S APIARY, POLYPHANT, CORNWALL.

through the walls of this shed three stocks work. The hills beyond furnish good foraging ground for the bees.

"Polyphant is a hamlet in the parish of Lewannick, four miles west of the old picturesque town of Launceston, where the Royal Cornwall Agricultural Society's Show was held last year in June. To me, bee-keeping has been an education in itself, and must always be to those who are lovers of nature, and enter into its secrets."

On sending a proof of the tone-block, along with a request for a few further particulars of our friend's bee-keeping, he writes :—

"In reply to your request for some further particulars as to myself as a bee-keeper, and my experiences in the 'craft,' I wish first to say that it is entirely owing to the labours of the parent Bee Association in past years that I am found among and associated with the large circle of readers of the B.B.J. and a member of the B.B.K.A., enjoying all that pleasurable 'clannishness' which only those know and experience who are true bee-men; and I hope I shall always retain the interest I feel in the Association and the work it is doing for the advancement of the good of the industry; in fact, I am, as I said before, a true convert to the principles of the British Bee-keepers' Association.

"Being a person of small means—or, in plain words, a naval pensioner—I run my apiary for profit, and, whilst doing so, manage to enlist recruits to the craft, and assist many others for miles around me in managing their bees, making journeys on my bicycle to reach them. In this way I am kept busy enough during the summer months. I cannot say that there is anything new or novel in my plan of management. I do not experiment, but produce sections and extracted honey just as I find a demand for each; and, whilst I sell to any person who wants honey, I find an excellent opportunity of disposing of the bulk of my produce at an old-time honey fair, held in each month of October at Liskeard, which town is about fifteen miles away."

CORRESPONDENCE.

(*Continued from page* 4.)

TEMPERING STEEL.

[3874.] The correction made in your editorial footnote on page 513 of B.J. for December 28 as to the order of colours in lowering the temper of hardened steel is quite right. To give a rough idea, the straw colour is that for a very fine edge, such as eye instruments require; the brown for a carver; while the blue is only spring temper. This rule, however, is subject to great modifications, according to the nature and quality of the steel being used. Your correspondent, Mr. Hampton, in his letter (3867, page 512), does not touch on the great difficulty of how to keep the edge straight, our experience being that a knife having been ground to a thin edge, it "runs" (*i.e.*, twists) when dipped to such an extent as to make the game not worth the candle.—S. BLOMFIELD & Co., *Manufacturing Cutlers, London, December* 30.

A BEGINNER'S EXPERIENCE.

HIVING MY FIRST SWARM.

[3875.] It has occurred to me that there is at present some scarcity in the usual bee-reading in your valuable paper, owing, perhaps, to so many other things besides bees claiming people's attention just now. And this—along with its being the dull season—seems to afford a chance for a beginner in bee-keeping to relate his first year's experience in the craft. I therefore venture to send mine on, hoping it may possess some interest for those who are only now making a start. Well, then, to begin. A bee-keeping friend chanced to invite me to go and help him in getting the supers off his hives and extract the honey from them. This happened more than a year ago, and I knew nothing whatever about bees at the time, except that I was rather afraid of being stung by one. However, to oblige my friend, I went, and shall not forget how smartly I made off when a few bees came buzzing about my head as we were at work. In the end, we got the honey off, and my friend sorely urged me to become a bee-keeper; but I was not sure enough of my ground to foster the idea. At last, after doing such easy jobs as extracting honey and tasting how nice it was, I began to think I must have a hive of my own. Thus, when, last Easter, I went home for my holidays, and, knowing that there was a bee-keeper in a large way not far off, I paid the latter a visit, which, after a long chat, resulted in my becoming possessor of a stock of bees in a straw skep.

After carrying my newly-acquired treasure about thirty miles, I landed it here at 11 p.m. My initial difficulty then arose—What was I to do with the bees at that hour of the night? My first impulse being to get them fixed up not too near me, I decided to carry them into our allotment garden about two hundred yards away, and here I planted the skep on top of an empty box. Next day I went very cautiously near to the hive to see how the bees were getting on, and, sure enough, they were busy carrying in pollen as if they had lived there all their lives.

As time went on, I used to visit the hive to watch how my live-stock was progressing, and by degrees I got so accustomed to bees flying about me that, on Sundays especially, I have sat in front of the hive and watched them at work for hours without the bees taking any notice of my being so close at hand. As the spring of 1899 was very cold, I gave a little thin syrup to the bees by way of helping them on, but on May 27 I became alarmed to see them casting out white grubs. I was told

this meant short stores, but the weather then became warmer, and the mischief stopped. The bees did well and increased so rapidly after this that my friend advised me to keep a good look out, or my hive would swarm unseen and the swarm take flight and be lost. I had to pay regular visits after this to see that the bees had not bolted. On June 1 they began to hang outside the hive in a big cluster. This continued for a few days till Sunday came, and I spent all morning watching the mass of bees and expecting to see the swarm to come off every moment. But they would not start, and at last when dinner time came I started homewards. Half an hour later I returned, and when I got to within ten yards of the line I could see the bees pouring out of the entrance, and in a few moments the air overhead was full of bees all going mad as it seemed. Anyhow, I did a double-shuffle to the hedge for protection, and in order to watch the clouds of bees flying about in the air with no settled purpose as it seemed. Gradually, however, the bees made for the opposite hedge, some thirty yards away and began to cluster on a thorn branch about 4 ft. from the ground. My next task was to get my brother to come and help me to hive the swarm, but you may be sure neither of us was very keen on the job, though it had to be faced; so I held the empty skep under the swarm while he shook the twig, and the bees dropped in all of a heap.

(Conclusion next week).

THE NEW CENTURY.

Mr. H. Sayers, jun., writes expressing his surprise that Mr. Brice in December *Record* and the Editors in B.B.J. of the 28th ult. should commit the mistake of supposing that the new century began on Monday, the 1st inst. Our correspondent, arguing from his own point of view, closes his remarks by observing:—"I think you will readily see that the present century will not close until December 31, 1900."

Of course it would be advantageous to all concerned to have the matter authoritatively settled in a way acceptable to the contending parties, but who is to decide? The German Emperor has decided for Germany that the new century began on January 1, 1900. And unless we are much mistaken, this will be the decision of the majority in this kingdom—not because Kaiser William has so decreed, but because it seems so in accord with common sense to agree with a no less high authority than Lord Kelvin when he says:—"Time is counted from zero, and for the first 365 days we are progressing from zero to one year. Thus the first century began with 0 and ended on December 31, '99. A man who has reached the hundredth anniversary of his birthday is in his 101st year; and, similarly, when we have reached the nineteen hundredth anniversary of the birth of Christ the Christian world is in its 1901st year, and the twentieth century has begun."

A Press comment on the above says:—Upholders of this view contend that it is only the inability to grasp the fact that the first year of any time must start from zero which is responsible for the failure to agree that the new century began at twelve o'clock on the night of Sunday, December 31.

METEOROLOGICAL

OBSERVATIONS TAKEN AT KETTON, STAMFORD, RUTLAND, FOR THE WEEKS ENDING DEC. 23 AND 30, 1899.

FOR THE WEEK ENDING DECEMBER 23.

1899.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.	Wind.
Dec. 17..	29·90	30·9	35	25	10	30·0	·01	NE
,, 18..	29·98	35·0	36	30	6	33·1	·01	NW
,, 19..	30·07	34·1	36	32	4	34·1	—	NW
,, 20..	30·11	34·7	35	33	2	34·0	—	E
,, 21..	30·22	35·0	36	34	2	35·0	—	N
,, 22..	30·17	33·8	36	32	4	34·1	·05	SE
,, 23..	29·98	35·0	42	32	10	37·2	·14	S
Means ..	30·06	34·1	36·6	31·1	5·5	34·0	·21	—

* Total, ·21 in.

FOR THE WEEK ENDING DECEMBER 30.

1899.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.	Wind.
Dec. 24..	29·87	37·5	43	35	8	39·2	·01	SW
,, 25..	29·80	35·0	39	32	7	35·6	—	W
,, 26..	29·47	36·1	41	31	10	36·2	·08	SW
,, 27..	29·39	21·5	31	20	11	25·7	—	W
,, 28..	29·45	25·0	45	21	24	33·5	·48	W
,, 29..	28·70	45·0	44	25	19	34·9	·13	SE
,, 30..	28·74	43·0	46	41	5	43·6	·01	SW
Means ..	29·35	34·7	41·3	29.3	12·0	35·5	·71*	—

* Total, ·71 in.

The rainfall for the week ending December 30 = 16,062·33 gallons, or 71·71 tons to the acre, or 3·55 lb. to the square foot. For the week ending December 16, the mean temp., viz., 27°·2, was −10°·4, and the rainfall, viz., ·22 in., was −·32 in. For the week ending December 23, the mean temp., viz., 34° 0, was −2°·6, and the rainfall, viz., ·21 in., was −·27 in. The mean temp. December 3-23, viz., 33°·7, is −4°·1, and the rainfall, viz., ·86 in., is −·76 in.

FRED. COVENTRY.

The Vale, Ketton, Stamford, December 31.

Queries and Replies.

[2317.] *Pollen-choked Combs.*—I have a good many super combs the cells of which are partly filled with a substance like the enclosed. Some of the combs are filled entirely with it, and some with patches. I hope you will confirm my opinion that it is pollen. 1. Would you consider such combs as useless for

another season, not having room left in them for much honey storing? It seems rather extravagant to lay them aside, as the whole of one of my supers (ten frames in each) is spoilt by it. Would you advise me to put aside the combs much filled, and use again those with only patches? 2 Would combs full of pollen so stored be useless for wax rendering? It seems such a pity to waste so much wax. Cannot the pollen be taken out in any way? 3 Would you kindly tell me if syrup made from thin honey and medicated will keep safely in a firmly-closed tin until the spring feeding time?—A BEGINNER, *N. Wales.*

REPLY.—1. Combs with pollen-choked cells as described are useless for either brood-nests or surplus chambers. They are therefore only fit for wax extracting by one or other of the ordinary methods. In cases where only a few cells are filled with pollen, the latter may be pulled away from the midrib of the comb and the bees allowed to rebuild the cells. 2. If the combs are broken up and put into a coarse canvas bag held below the surface of water while boiling for some time, the wax will rise to the surface of the water, and may be removed in a cake when cold. But it is a messy job, to say the least of it, and more suitable for extracting by solar heat than the boiling plan. 3. We should not use the honey as bee-food if it is unripe and fermented.

[2318] *Bees Fighting in Autumn.*—Like the rest of beginners, I am a little uneasy about my bees. I started the season of 1899 with three stocks of driven bees made up the previous autumn, and have done what I consider well, having had about 1 cwt. of surplus honey, all of which I retailed, and had no trouble to get 1s. per lb. for. Being a carpenter by trade I make all my own hives, and have now increased my stock to thirteen colonies, with the help of driven bees. I mixed two lots of these in one hive, and they took down about 35 lb. of sugar made into syrup, and reared a lot of brood while doing so; indeed, they continued breeding well on into October, and then a smaller lot started to rob them. I tried to stop the mischief, but did not succeed in doing so. The cold weather then set in, and I thought that would end the trouble. Being away at work all day, I have to see to the bees at night. December 29 and 30 being mild, the bees were flying freely, and when I came down this morning there were about thirty dead ones on the alighting board. None of the other hives had more than three or four. If you will give me a little advice as to the cause of this, I should be much obliged.—W. L. SMITH, *Chatham, December* 31.

REPLY.—The difference in the number of dead bees found on the alighting board of hive referred to is no doubt accounted for by the robbing noticed in October. There is little or no cause for alarm in what you saw if the bees are still fairly strong in numbers.

[2319.] *Bees Building Comb in Candy Box.*—On looking carefully a day or two ago to see whether my bees were using up the candy I had given them in the autumn, I found one stock with none left, but in its place they had made comb hanging from the centre of the glass lid. 1. What does that mean? 2. Should I give more candy? This hive was my fullest last summer, and in the autumn I had taken some of their extra stores from it to give to those stocks less plentifully supplied.—D. C., *Upper Tooting, S.W., December* 30.

REPLY.—1. It is not at all uncommon for bees to build small pieces of comb as stated after removing the candy. In fact, the wax used in comb-building is formed from the candy itself. 2. If there is the least risk of stores running short, we should renew the cake of candy, but not otherwise.

[2320.] *Queen-Rearing.*—Wishing to cross the black with the Carniolan bee, I ordered a Carniolan queen early in May, but did not receive her until August, so that I could do nothing last season. Will you kindly answer the following? 1. I have five stocks of black bees and one of Carniolans, all of which were strong and in good condition when packed for the winter. If I stimulate one hive of blacks and the Carniolan stock by feeding early in the spring, and place a frame of worker comb in the centre of the blacks, and three days after make an artificial swarm from them (using the comb with the eggs for rearing the queen), and in about eight days make artificial swarms from the other four stocks of black, using a queen-cell from the first artificial swarm, I should then have five lots of black and five crossed with the Carniolan. I do not want to lose another season. 2. Do you think that I should get any surplus honey?—W. COOPER, *Ryde.*

REPLY.—1. From the above it is clear an extensive operation in queen-rearing is contemplated, and unless our correspondent has had experience along this branch of the pursuit, we should advise him to go slowly, and certainly not to commence operations "*early* in the spring." If eggs are used of the black queen, it is by no means certain that they will be mated with Carniolans. If eggs of Carniolan queen are used, then the chances of being mated with black drones is far greater. Follow the lines laid down in "Guide Book," pages 93, 119, 123. 2. It requires a good season and special management to obtain increase in stock and surplus in honey in one season.

LARVÆ FOR QUEEN-REARING.

FOR WHAT AGE DO THE BEES SHOW A PREFERENCE?

On page 725 of *Gleanings* for 1898 I expressed the belief that the common notion that when a queen was suddenly removed from a colony, the bees were in such haste to

rear a successor that they would select larvæ too old, was a mistaken notion. Earnest protests came from those whose opinions were entitled to respect, and some views were attributed to me that I did not hold. On page 427 of *Gleanings* for last year I defined my position more explicitly, and on page 494 said: "Please watch what bees do when the queen is taken away, and see if they make the mistake of choosing larvæ more than three days old for queen-rearing." I made the same request publicly and privately elsewhere. I don't know that any one paid any attention to it, and I don't know that I blame such; for, so far as I know, I stood alone in opposing a view in which all the rest were agreed.

Upon one point in dispute, however, I did not stand entirely alone. I said queenless bees start queen-cells when first made queenless, and continue to start queen-cells for several days. Mr. Hutchinson said his bees started all their cells at nearly the same time, and so nearly of an age that the young queens emerged not more than two days apart. Henry Alley said his experience agreed with mine upon this point.

Having asked others to make fresh observations, it was only fair that I should do so myself. It might be I had not been careful enough in previous experiments. So I took the matter in dispute to the bees, and took careful notes of their testimony. The important thing was to know somewhat positively the age of the eggs or larvæ used, and the time at which the queen-cells were started.

To No. 84 I gave successively frames of empty comb, noting the time at which a comb was given as well as the time it was taken away. I was not as successful as I should have liked in getting the queen to lay promptly in the combs given. In one case no eggs were laid in the prescribed comb after 24 hours' waiting. The probability is that in all cases the eggs were laid in the last rather than the first part of the time in which the queen had the comb. That is, if I gave the comb on one day at noon and took it away the next day at noon, very likely most or all the eggs were laid during the latter half of the 24 hours. The crowd of other work upon me will account for the irregular hours at which the work was done.

Allow me to name the different combs by the first five letters of the alphabet. They were given to and taken from No. 84 as follows:—

Comb *a*, given June 28, 10 a.m.; taken June 29, 12 p.m.

Comb *b*, given June 29, 12 a.m.; taken June 30, 2 p.m.

Comb *c*, given July 1, 4 p.m.; taken July 3, 10 a.m.

Comb *d*, given July 3, 10 a.m.; taken July 4, 10 a.m.

Comb *e*, given July 3, 10 a.m.; taken July 5, 10 a.m.

Each of these combs, when it was taken from No. 84, was put in an upper story of No. 54 over an excluder. No. 54 was a tolerably strong colony with a laying queen. The combs were merely put in this upper story for safe keeping, the bees taking good care of the eggs and larvæ.

July 5, at 4 p.m., I took from No. 54 its queen and all its combs of brood except the five combs for experiment.

July 6, at 10.30 a.m., I examined to see if any progress had been made. The colony had now been queenless 18 hours 30 minutes, and I found queen-cells started, but not entirely where I expected.

Comb *a* had no queen-cell, neither were any started on it later. Counting that the egg hatches three days after it is laid, the youngest larva in comb *a* must have been at this time about 3 days 22½ hours old, or 22½ hours too old for a good queen, if the scientists are right in telling us that the worker larvæ are weaned at three days old.

Comb *b* had two queen-cells started on it. The oldest larva in this comb must have been not more than 3 days 22½ hours old, and the youngest not less than 2 days 20½ hours old.

Comb *c* had eight queen-cells. Two of them had hoods built over them, the rest only showed the cells enlarged and an extra amount of pap. No larva in this comb could have been more than 1 day 18½ hours old. The youngest were probably not more than 24½ hours old.

On the other combs I found no queen-cells.

I very much regret that nothing more precise can be said about the cells on comb *b*. I cannot prove positively that the two cells started on it may not have contained larvæ 3 days 22½ hours old. To make this possible, however, the queen must have commenced laying in this comb the minute it was put in hive 84, while the probability is that she did not begin laying there for some hours afterward. Moreover, the cells were started at least some little time *before* the observation was made, so something must be deducted from their age at starting, on that score. Besides, the fact that four times as many cells were started on comb *c* as on comb *b*, the larvæ in *c* being less than two days old, hardly looks as if they would *prefer* the oldest larvæ in *b* while at the same time they preferred anything so much younger as the larvæ in *c*. But I must leave others to form their own judgment.

If the bees had asked my advice in the matter they probably would have done somewhat differently. I should have said to them, "So long as a larva is only three days old, it's all right for a queen; and as you're in a hurry for another queen you'd better start all your cells on comb *b*." But they didn't ask my advice.

July 7, 4 p.m.—Three more queen-cells on comb *b*. These were started from larvæ 2 days 20½ hours old or older. No cells were started on comb *b* at any later time.

Comb *c* has 16 cells, two of them being emptied of their contents. No larva in this comb could have been more than three days old at the time of this observation.

No queen-cells on combs *d* and *e*.

July 8, 4 p.m.—Comb *c* has another cell, making 15 on it (not counting the two that were emptied).

Comb *b* has its first cell, started over a larva that was less than 2 days 6 hours old.

July 10, 11.30 a.m.—No additional cells on comb *c*.

Comb *d* has three additional cells, these having been started over larvæ less than 4 days 1½ hours old, and they might have been not more than 30 hours old.

July 11, 8 a.m.—Comb *c* has 17 cells. If there is no mistake in previous observations, the two additional cells on this comb must have been built over larvæ at least 4 days 1½ hours old. That would surely be taking too old larvæ when younger were present. There is a bare possibility that these two cells were overlooked before, and were now more easily seen when sealed. But I give it just as I find it in the notes taken more than two months ago.

Comb *d* has 6 cells, the last two started over larvæ less than 4 days 22 hours old, and possibly not more than 3 days 1½ hours old.

July 12, 9 a.m.—Comb *d* has 8 cells, the last two started over larvæ less than 5 days 23 hours old, and possibly not more than 3 days 22 hours old.

Comb *e* has 3 cells, the first it has had. These cells were started over larvæ less than 4 days 23 hours old, and possibly not more than 2 days 22 hours old.

July 13, 6 a.m.—No additional cells on any but comb *e*, which has now 6 cells, the last three being started over larvæ less than 5 days 20 hours old, and possibly not more than 3 days 23 hours old.

This closes the testimony of the bees, no cells being started later. In some respects it is not exactly what I desired and intended the bees should give, but they are to blame for that and not I. I know very well that this is only a single case, and that the next case might be different, for "bees never do any thing invariably"; but let us see what conclusions may be reached from the testimony given.

In the first place, it certainly is *not* proven by the testimony given that bees made queenless are in such haste to rear a queen that they at once select larvæ too old for the purpose. Moreover, I have had the matter in mind throughout the season, and in every case the cells first started were over larvæ that were very small. If any one has accepted the challenge thrown out by me to prove that bees at once selected too old larvæ, I hope he will report at once.

It is certainly very clear that in this case at least the bees did not start all their cells within about 48 hours' time, as Bro. Hutchinson says his do. The first cells were started *before* July 6, 10.30 a.m. The last cells were started *after* July 12, 9 a.m. From that it is easily seen that the time from the first to the last cells started was 6 days lacking 1½ hours. It was that much at least, and it may have been more. Henry Alley's experience agrees in this.

While the bees at first select larvæ sufficiently young for good queens, they afterward use some that are too old, continuing to start cells when larvæ of proper age are no longer present. Editor Hutchinson says his bees build cells that he calls fool-cells, because they are so insignificant and poor, and he does not know how to account for them. If he will observe with sufficient care, I think he will find that they are nothing more nor less than cells started over too old larvæ, probably after larvæ of proper age were no longer present.

I must not evade the observation that, something more than 5½ days after the removal of the queen, the bees started cells over too old larvæ when younger larvæ were present. I might say that sometimes bees hold eggs without hatching for more than three days (Dzierzon says two weeks), but I will not press that.

Until some one brings forward some proof to the contrary, I feel safe in saying that when bees are made queenless they are *not* in such haste to rear a new queen that they select too old larvæ, and that there is no error in selection during the first five days of queenlessness. If the combs with the cells be taken within the first five days, and put in the upper storey of a colony having a laying queen, there will be no too old larvæ in the case. If left with the queenless bees till larvæ of proper age are no longer present, they will build cells over too old larvæ—what Bro. Hutchinson calls "fool-cells."—Dr. C. C. Miller in *Gleanings*.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. Belderson (Norfolk).—*Honey Sample.*—The honey sent is from mixed sources, not all from strawberry bloom as supposed.

S. E. Watts (Mirfield).—*Books for Beginners.*—The only suitable books we have are "Modern Bee-keeping," a handbook for cottagers (price 7d., post free), and the "Bee-keeper's Guide Book" (price 1s. 8d., post free).

A. W. Baker (Torquay).—*Lantern-slides for Hive—Results of Examinations for Experts' Certificates.*—Communications regarding both the above questions should be addressed to Mr. Edwin H. Young, Secretary of the B.B.K.A., 12, Hanover-square, London, W.

F. D. (Wembley).—*Suspected Loss of Queen.*—Bee sent is not a queen at all, only a worker.

Editorial, Notices, &c.

THE NEW CENTURY.

We rather regret having been tempted to say a few words last week—in reply to a correspondent—on the vexed question involved in fixing the date when the new century begins. As a result of our temerity we have received several communications from readers who are apparently desirous of discussing the matter in a way likely to become acrimonious, and which, moreover, would bring us no nearer to a general agreement on the question.

Our old friend and correspondent, Mr. L. Wren, of Lowestoft, however, closes his letter with a word or two which—to use a colloquialism—"fills the bill entirely." After quoting the familiar commercial aspect of the case, he says: — "The German Emperor and Lord Kelvin are only mortal, and thus liable to err." Exactly! And as we do not for a moment suppose that our friend or those who adopt similar views will claim to be more than mortal, the matter settles itself amicably by our agreeing to differ, without differing in order to agree.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held on Friday, January 5, at 105, Jermyn-street, S.W., Mr. H. Jonas being voted to the chair. There were also present Messrs. R. T. Andrews, R. C. Blundell, H. W. Brice, J. M. Hooker, J. H. New, Ernest Walker, and the Secretary.

The following members were unavoidably absent, mainly through indisposition, viz.: Miss Gayton, Hon. and Rev. Henry Bligh, Mr. E. D. Till (Vice-Chairman), Messrs. W. Broughton Carr, W. H. Harris, T. I. Weston, and F. B. White.

The minutes of the previous meeting were read and confirmed.

The Secretary read the Report of the Finance Committee, and brought forward a list of payments recommended. The report was adopted.

A letter from Mr. Till, formally intimating his intention of resigning the Vice-Chairmanship at the end of his present term of office, was read to the meeting, and received with regret by all present. It was truly said by one of his colleagues on the Council that "Mr. Till's interest in the Association, his knowledge of men, his leisure, his good sense, his kindness and courtesy, and his readiness always to listen to every side of a question, have made his services very valuable."

Correspondence on minor matters was dealt with, and the Secretary instructed in regard thereto.

PARTHENOGENESIS,

AND THE PART IT PLAYS IN THE DEVELOPMENT OF THE HONEY BEE.

By R. Hamlyn-Harris, F.Z.S., F.E.S., &c.

> "In fairyland was born the matchless dame,
> The land of dreams, Hypothesis her name;
> There fancy nursed her in ideal bowers,
> And laid her soft in Amaranthine flowers.

Ideas which we may desire to express are often thus found portrayed by one or another of our poets, and Cowper, amongst them, expresses most emphatically an idea which I wish to be kept clear and distinct throughout the following paper:—

Some months have elapsed since I brought to your notice, in the B.J. of February 9 last, through the address delivered by myself at the annual meeting of the Bristol S. and S.G. B.K.A., the extraordinarily imaginative views, generally spoken of as the "Dickel Theory."

This theory—and I would ask you to bear in mind the difference between the word "theory," meaning an *hypothesis*, in contrast to the teaching of Parthenogenesis, which has (in the last fifty years at least) been received as an established fact—unlikely though it must have seemed to every practical bee-keeper, and tending as it did, in the minds of some, to supplant their former conceptions of these matters, caused no small stir, particularly in Germany and Austria.

Two seasons have passed and gone since the first discordant sounds were heard on this subject, and yet Mr. Dickel stands where he did at the commencement of his campaign. No fresh developments have taken place, and instead of the theory opening out, as might have been expected had it been correct, it has unquestionably come to a deadlock.

That the theory in question might produce many supporters can be easily understood, for it will be acknowledged that the great majority of bee-keepers do not trouble themselves about how the different forms of life in the bee-hive come about; and even those who have some idea on the subject would easily "swallow" what they were told, if thereby some credit could be assigned to them also. Without doubt, it is a theory which would "go down" with those who live in ignorance of the true scientific occurrences which must, in the course of events, take place, and which cannot be hindered in the easy way imagined.

It seems almost superfluous to again mention the two theories in detail, but as it is not unlikely that many readers have not seen the address previously referred to, I will simply quote parts of it so that no confusion may arise in the minds of your readers:—

"Stated briefly, the theory of Parthenogenesis in bees is this:—The queen after she has once been mated can lay at will two kinds of eggs, *i.e*, fertilised and unfertilised, the former of which produces females, the latter males.

"On the other hand, the rival theory is as

follows :—1. The fertile queen-bee lays only fertile eggs, the fate of which depends solely upon the worker-bee, which alone has the power of determining the sex of the resultant insect. 2. This power is exercised through the medium of two pairs of glands, one pair of which secretes the needful element for the production of drones, the other that necessary to produce queens and workers only. The secretion referred to is supplied during the hermaphrodite stage of the larva, and continued until the commencement of the nymph stage; the ultimate determination of sex being brought about by the secretion of both these glandular forms. 3. In the case of unfertile eggs, that is eggs laid by unmated queens or by 'fertile' workers, only drones can result.

"These drones, however, are *abnormal*, and by no means the same as those produced from fertile eggs. The normal drone possesses, of course, perfect generative organs, but in the 'abnormal' insect these are wanting. Up to the present no such distinction has been made."

At the congress of bee-keepers in Cologne in August last (a report of which appeared in B.J. for October 19, 1899), two observatory hives were placed at our disposal for the purpose (as described in the catalogue) "of laying the foundations of the Dickel theory." The exhibitor of these stocks, one of Dickel's warmest supporters, took great pains to show us an experiment which is as easily explained as it is narrated.

I believe I have referred to this experiment before, but for the sake of those who have not heard of it I will recur to it again, for on it my friend told me the whole Dickel theory rests. Here, then, we have the small apex on which the huge inverted pyramid is reared.

Experiment (*a*).—A stock with a healthy queen was hived on drone-comb only, and in the course of a few days the queen had nearly filled two of these combs with eggs. She was then removed. As a result two-thirds of these eggs produced workers and one-third drones, the whole being mixed up indiscriminately.

This was shown me, and I do not dispute the fact in any way, but without the least shadow of a doubt we must remember, in the first place, that all Dickel's experiments, as well as those of his supporters, are based upon abnormal circumstances, and therefore it requires only common sense to see that the queen finding only drone-comb in her hive laid worker-eggs as well as drone-eggs, and both were produced accordingly.

Their interpretation of this, however, is that the queen laid only one kind of egg, namely, fertile eggs, and that the workers, by their "saliva," produced by the two pairs of glands respectively, as well as some of the other influences brought to bear on the determination of sex (*vide* BEE JOURNAL, February 23, 1899, p. 72), called forth the two forms of bee life.

The drone-cells containing workers were most significantly narrowed towards the top so that the smaller cappings could be distinctly seen standing out in relief; the young workers showed no irregularity whatever. Certainly the shapes and sizes of the cells exercised no influence in this case upon the resultant insect. I must not forget to mention that this exhibitor in question made no secret of the fact that these experiments would only hold good in the summer months.

The reason why he had never been successful in the autumn is surely to be attributed to no other reason than that he could not get the queen to lay drone-eggs at this time of the year, hence we can only suppose "the little trick did not act."

Further, at Cologne I was challenged by this same man to explain the following experiment, which he proposed to carry out with me if I would stay a day or two longer :—

Experiment (*b*).—A colony was placed for some time on combs containing chiefly drone-cells; when examined, it contained only sealed worker-brood, nor was there a single cell which could have contained a drone. (!) The queen was then removed, and the hive closed up. Four days later the hive was again examined, and seven queen-cells and some nearly perfect drones were then found. These could not possibly have been reared from eggs, for which a period of four days would have been too short.

This experiment was the same one which was carried out at Salzburg last year, and which presents no difficulty whatever, as the two kinds of eggs must have been present; and it is difficult to understand how any one can waste their time over such matters, which are as clear as the daylight around them.

Bees, particularly queens, have been known to do curious things, which we have not at the moment been able to explain; but if we once grasp the fact that Mr. Dickel, in order to prove his assertions, must place every hive under abnormal circumstances, it is easy enough to find an explanation to what seems to Mr. Dickel and his supporters to be new and mysterious, and only to be explained by his own pet theory.

In February last, when on the look-out for every possible opportunity of testing the matter, one of the stocks of our experimental apiary became suddenly queenless; the queen had, however, been laying up to the time of her decease. From these eggs the bees reared one queen, which, however, remained unfertilised, as would naturally be the case so early in the year. However, expecting from the teaching of the new theory that under such circumstances the workers would rear drones from the brood, we continued to insert from time to time fresh combs with newly laid worker-eggs in worker-comb; and although they had ample opportunity thus to rear drones for the fertilisation of their young queen, yet we have seen that this did not take

place, and we found it to be impossible, for only workers were produced.

Though I myself cannot see that practical experiments play any very important part in this new teaching, when we can ascertain without them, by microscopical research, the true nature of the two kinds of eggs, viz., fertilised and unfertilised; but, to satisfy your practical readers, I will quote another experiment, carried out by a supporter of Dickel.

The following is a translation from the *Nördlinger Zeitung*:—

"After long and fruitless search I had at last (July 21) the good fortune to find a queen in the act of laying her eggs in drone-cells. A colony with which I intended to experiment had been exactly fifteen days queenless, and contained no trace of either eggs or larvæ, which might lead to misapprehensions.

"I transferred some of these freshly-laid drone-eggs (by means of a needle bent at the point) to the worker-cells in this queenless hive. On July 24 I perceived that eight of the eggs were missing and three queen-cells had been formed. Examination on July 30 proved that two of these were empty, but the third contained a larva and had become a regular queen-cell, which was near being capped over. On the 16th and 17th day I again examined and expected to find a young queen hatched—but in vain; the cell remained closed, but looked normal. I waited four days longer, and on August 11, twenty-one days after the transfer of the eggs, I decided to discover the facts of the case. I blew the bees away with the smoker, and at the first glance I thought the nymph had died as the cell was still closed, but closer observation showed the lid partly bitten through, and that two great feelers were perceptible in the opening. I watched anxiously for a time and hoped the creature would leave the cell in a natural way before my eyes, but it was too tardy in its movements, so I carefully tore away the rest of the capping and opened it entirely. And what came forth? A beautiful queen-bee, actively stretching her limbs and gladly received by the workers.

"My hands transferred the egg from a drone-cell to a worker-cell, and my eyes have seen that a queen has emerged from a so-called drone-egg on the twenty-first day. To-day's examination shows the queen to be fertilised, and, so far as I know, I am the first bee-keeper possessing a queen-bee reared according to your theory direct from a 'drone-egg.' Through this observation I am firmly persuaded (*a*) that all eggs, also those for normal drones, are fertilised; (*b*) that the influence of the worker-bees decide which of the three classes shall proceed from the egg, and that Dzierzon's theory of the development of sex will henceforth only take a place in my teaching as a curiosity of the past."

Surely every practical bee-keeper can without a moment's hesitation answer this for himself, and it is difficult to imagine how any one could be so taken in as to think that this argues against Dzierzon, unless, indeed, he takes for granted that which he seeks to prove. I think we may say, with every degree of certainty, that the normal queen at times lays drone-eggs in worker-cells, and *vice versâ*, but that, considering their nature, the workers do away with them unless drones are urgently required, and I think we must most certainly abandon the idea (if we have not done so long ago) that worker and drone eggs are only laid in their respective cells. But this proves nothing.

The artificial transfer of drone-eggs into queen-cells was abandoned by myself on account of the great uncertainty which has been always experienced as to whether the workers did not exchange the drone-eggs for worker-eggs, a state of things often recorded in the past, and experiments carried on in the dark are of no avail; but, on the contrary, only produce confusion.

In April last Mr. W. H. Brice was good enough to supply me with information on this subject, in answer to a request addressed to him by myself, and, as his remarks are so thoroughly to the point, and bearing on this same subject, I will again quote them here, though he himself refers to them in the May *Record*. Mr. Brice says: "In October, 1898, I imported twelve Ligurian queens; they arrived on the 26th of that month. In anticipation, I prepared twelve strong colonies, and the queens were introduced on arrival and packed for winter. In February last I noted things were abnormal, and examined and found eleven out of the twelve were virgin queens; eight of the hives contained drones and drone-brood in worker-cells.

"Subsequently I found two others in the same condition, and one queenless, but with drone-brood, and one queen-cell with drone larvæ very fully developed, but dead, some days past the time for hatching out. In view of what was 'on the *tapis*,' I microscopically examined this grub and found it a complete drone, with perfect drone organs. I now removed queens from four of the other abnormal stocks, taking care that eggs were plentiful, and watching the development of queen-cells. The average cells raised were three in each case. I removed those I raised from larvæ and fed the bees. I thus had three good cells in one hive, and left one each in the other three. All grubs were alive when sealed, but were unmistakable drone larvæ. I gave each to the twenty-sixth day to hatch, and then examined, but in every case the pseudo-queens were drones pure and simple. In all the above cases the eggs were in worker-cells, and all queen-cells were raised on such cells. Had there been one queen thus raised, or even a modification of the organs of the embryo, I would give a point to the theory; but it is not so, and never has been so, and, what is far

more cogent, never can be so where *Apis mellifica* is concerned."

(Conclusion next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

ANOTHER BEGINNER'S EXPERIENCE.

MY FIRST HARVEST FROM HEATHER.

[3876.] My bees are located in the extreme west of Herefordshire, on a hillside overlooking the Wye valley, and at an elevation of 600 ft. above sea level, with a south aspect. Although we have a goodly number of fruit trees in the district, I have never yet had any honey stored in supers from the blossom. My experience is limited to three seasons, but so far it has been the end of May before supers have been occupied. I had honey earlier in 1899 than in former years, but the flow was sooner over. Very little was done for a fortnight after July closed, so I extracted surplus from all shallow-frames, and returned them to be cleaned up. A fortnight afterwards I found more honey stored, but not sealed. By the middle of September I had eighty frames almost entirely sealed, which averaged 3 lb. each. The honey proved to be almost entirely from the heather. This was quite a new experience for me. I found my extractor useless; it would break the comb out of the frame, but would not bring the honey out of the comb, and I was compelled to get a press with which to do the work. With great regret I saw my shallow combs broken up, but no other course was available. To find heather in any quantity my bees must have travelled considerably beyond the two mile radius—in fact, I know of no wide stretches of it under from four to six miles.

I brought nine stocks safely through the winter, but in April the expert found four of them affected with foul-brood. These I promptly reduced to the condition of a swarm, and put them, after a few days, into a clean hive, with whole sheets of foundation. Thus I began the active season with six fairly strong stocks. My total yield has been 620 lb. on the scale; 582 lb. having been stored by five hives as follows:—No. 1, 78 lb.; No. 2, 173 lb.; No. 3, 50 lb. (this hive swarmed twice); No. 4, 135 lb.; No. 5, 146 lb. This is much better than I have ever done previously; my highest "take" from a single hive before having been 137 lb. only. No. 1 was the united lot spoken of above; they had to begin *de novo* after April 28—this explains the smaller amount of surplus they gave me; the quality, however, was excellent, and took a first prize at the Hereford Show among twenty-two entries in the class.

I have eight hives now, which I hope to bring safely through the winter. I noticed to-day (January 2) that the bees had seized the opportunity of doing a little cleaning up (the weather being very mild); dead bees were being carried out, and there was quite a joyful hum in the apiary. I am looking forward with much pleasure to another season among our busy little friends.

If you would care to know anything about the financial aspect of affairs, or how I cast my wax for the market, I will communicate with you again. What I have written will be of small interest (if any) to the "old hands"; but it may have some use in giving encouragement to others who are beginners like myself, hence I venture to send it for publication in the B.B.J.—W. H., *Brilley, Herefordshire, January 2.*

[We shall be very pleased to have your "financial" report for publication, as being one of the most valuable features of one's bee-experiences.—EDS.]

(Correspondence continued on p. 16.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our bee-garden picture this week carries us a good way to the far North of Scotland where Mr. Coburn represents one more welcome class of B.J. reader, viz., the busy tradesman who is also an enthusiastic bee-keeper.

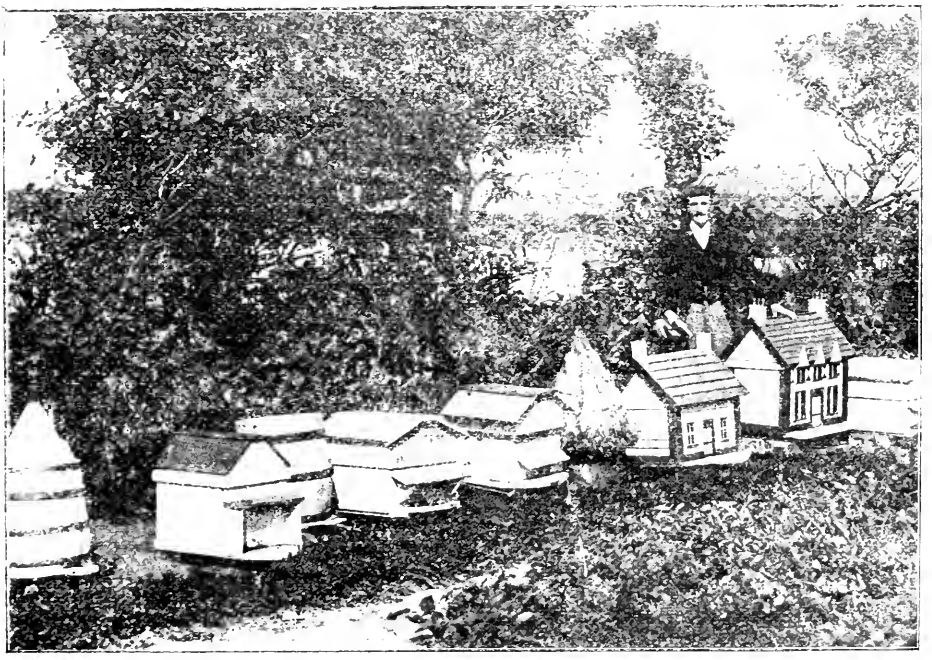
The full account he sends of his bee-keeping, &c., renders it needless for us to add anything thereto. He says:—

"Regarding the particulars you ask for of my experiences of bee-keeping, I may say it is only between four and five years since I first began to know anything about bees. Although brought up in the country where there are plenty of bees about, I was like many more and knew nothing concerning them, and what little knowledge I now possess has been acquired by reading and learning from the pages of the current bee-literature of the day.

"My apiary is situated in the Buchan district of Aberdeenshire, between Aberdeen and Peterhead, and you may judge of the good quality of our pastures by the famous beef we send you.

"The clover is exceptionally rich here and lasts for about six weeks, viz, from second week in June to beginning of August. Although it is practically the only crop we have, still we sometimes secure very fair 'takes' of honey from it. In the season of 1897 I got over 100 finished sections from one hive, but my average

is far below that. Regarding working of hives I cannot claim anything original. Some plan I read about strikes me as a good one and I follow it out. I work for extracted honey as well as sections, and have proved, to my own satisfaction at least, that nothing works better than the storifying principle. Although not in my line, I do a little hive-making. The hives seen in the form of 'model cottages' are the result of my spare time. They are fitted with standard frames. The larger one is on the 'Wells' principle, but I have never done anything extraordinary with it yet. It is said that everybody has a 'weak side,' and certainly my 'Wells' hive usually has one.



MR. A. COBURN'S APIARY, AUCHNAGATT, ABERDEENSHIRE.

"In the year 1898 I had a notion that by introducing some new blood among my bees they would be improved, and, accordingly, I procured a Ligurian queen, which was safely introduced to a good colony, and everything seemed to go all right. But on opening the hive last spring I found her dead along with all the rest of the bees.

"I took extra precautions with this stock in preparing it for winter so far as seeing that there was plenty of food, the frames crowded with bees, and warmly packed.

"My idea now is that Aberdeenshire is too far north for the Ligurian bee. Anyway, I found them all dead on empty combs in centre of hive, while there was any amount of honey right round them on the outsides. It seemed as if they had felt the cold so much (though not at all a severe winter) that they were unable to spread themselves out in order to get at the food.

"Perhaps I am wrong in my theory, but it seemed to be the most probable cause of the bees' death. I have two queens reared from her, which I hope will have better luck in the future.

"When reading my bee-paper I am often surprised at the great difference experienced by bee-keepers in different parts of this small country of ours. I read of bees swarming in the southern districts at a time when there is scarcely any brood in the combs in my neighbourhood, and the honey-flow is almost past before my bees begin to gather anything in the way of surplus. I may also say that although there is a considerable amount of heather growing around here, I have failed to get any appreciable amount of surplus from it.

"There is one thing disturbs me not a little in connection with bee-keeping, and it is that the busy season of the bees just happens at the time when I am most busy in the management of my rather large clothiery business, which is my main occupation in life. You see when the sun begins to shine in earnest in spring and makes everything green (including men's coats), I find I have two busy seasons upon me at once. However, I manage to get over this, so far as regards my 'hobby,'

the bees, by getting up early in the morning and then having sometimes an hour or two to spare through the day. I make most of the hives myself. The large one, in the form of a house, beside which I am standing in the picture, is one which I made during last winter evenings, almost wholly out of 'cloth boards,' which cost me nothing. The frames, &c., are all made from instructions I have got by reading, as I don't presume to know anything better than those who have had far longer experience."

CORRESPONDENCE.

(*Continued from page* 14.)

THE LATE-FLOWERING LIMES.

THEIR EFFECT ON BEES.

[3877.] A lady writes:—"Regarding the bees, Isabel tells me she has seen them lying dead or drunk by the score on their little backs underneath the lime tree that hangs over the path down to the pond at Somerleze Wells, Somerset. Isabel says she thinks their lime tree is just like every other body's lime tree; it positively hums with the bees all the day long when the flowers are out. But no doubt she would send a bit of leaf and flower to any one interested in the subject, and observe more carefully next year if I ask her."—E. D. TILL, *Eynsford.*

P.S.—Twigs of the lime alluded to have been asked for, with the object of identifying the variety.

NOTES FROM A BEGINNER.

[3878.] I was induced during the past year to become interested in bee-keeping by having attended a lecture given by an expert appointed by the County Council Technical Committee, and my interest was so greatly aroused by his description of the management of bees, modern bar-framed hives, and other improvements, that I fully made up my mind again to become a bee-keeper. I may say that several years ago I kept bees in three boxes with ornamental roofs and small glass shutters on two sides, but though I felt even then much interested in watching the bees returning home loaded with pollen—which I then thought was wax—yet I had no one to enlighten my mind as to their wonderful doings, and the three stocks gradually disappeared. However, after the said lecture, I at once gave an order for a hive of the best kind, as recommended by the lecturer, and a swarm of bees. About the first week in June last the hive arrived, and a few days later my swarm; but being hot, thundery weather, the bees badly packed, and the covering of skep too thick, they were nearly all dead. I received some more in compensation, and purchased another swarm; they were successfully united, and did very well. When, however, I ordered a "swarm" at first, I meant a "stock," but did not then know of the latter term, as I was informed I could not get them until June, so I waited rather impatiently till they arrived. They were hived and placed on my small lawn (not more than twenty yards square) at the back of my house, which is surrounded by walls 8 ft. high. My wife was much alarmed by the statements of every one who saw the hive, that it would not be safe for her or the children to venture into the garden for fear of being stung, and this being the only outlet for the children, my wife wished the bees "at Halifax." They, however, gained confidence, and soon lost all fear; for, although there were often five or six children romping behind, at the sides, and often all round the hive whilst the bees were busily working, no one member of the family or servant has up to this time (more than six months) had a single sting, and I have sometimes seen the children sitting on the hive.

Since the arrival of that swarm I have regularly taken and carefully studied your BEE JOURNAL and Mr. Cowan's "Guide Book," which latter I have carefully read through many times, and each time I seem better able to grasp the details which were not so much impressed on my mind at other readings. In fact, it is only when you are practically manipulating your bees that you realise the value of the information laid down in that book.

I have during the past summer and autumn become possessed of several other stocks purchased in the neighbourhood in old skeps, boxes, lard-buckets, old barrels, and the other odd receptacles which come first to hand with cottagers when they have a swarm; and, as you may imagine, I have had almost every difficulty to contend with in getting some of the stocks into proper bar-framed hives. In all difficulties, reference is at once made to the "Guide Book," and I have always found instructions clear enough for my guidance, and every day makes me more interested in the management of my apiary.

Some of the slabs of honey which my bees have stored in the bar-frames are really beautiful, and are the admiration of my friends, many of whom are anxious to commence bee-keeping in the spring.

I fear I am enlarging too much on your space, and must ask you to kindly omit such of my bee history as you think will not be of sufficient interest to your numerous readers, but I cannot resist giving my opinion on the subject of hives. Knowing, as I do, the value of hollow outer walls as a necessity to resist damp, cold, and excessive heat for dwelling houses, I am fully satisfied of the advantage of having double walls all round brood-chambers of hives. No single walls for me. Some of my stocks are placed on shelves around a bee-house formed in a loft, with entrances cut through the brick walls and small alighting boards outside. My bees are

the centre of a small town in the midst of flower and fruit gardens, white clover fields, lime trees of several varieties, and in the early spring the hedge-rows are covered with a very numerous variety of wild flowers. I do not think there are thirty stocks of bees kept within a mile of the town. I am finding out all the bee-keepers of this district with the hope that they also may be induced to increase their pleasure and profits in bee-keeping by a regular perusal and study of the valuable information set out in each weekly issue of your BRITISH BEE JOURNAL.—EAST DORSET.

PRICES CURRENT FOR HONEY.

[3879.] It may be of interest to those who are so desirous of seeing similar particulars published in the BRITISH BEE JOURNAL to reprint the following prices current for honey and beeswax, which I copy from the *Town and Country Journal* of Sydney, New South Wales, dated November 4, 1899:—"Beeswax, prime clear, 1s. to 1s. 0½d. per lb.; honey, 1½d. to 2½d. per lb.; special brands (small lots), 3d. to 3½d. per lb."—H. J. GUEST, *King's Norton, Birmingham.*

A BEGINNER'S EXPERIENCE.

HIVING MY FIRST SWARM.

(*Concluded from page 7.*)

[3880.] I was not very long in turning the skep over on to a sack, and propping it up on one side to allow the bees to get in. But they did not seem to take to the new home, and eventually I could see they began to leave the skep and cluster again on the same twig. This made me very hot, wondering what to do next. I was afraid to shake the bees down again for fear they would make off. In this trouble I thought the best thing was to send for my bee-friend to come and hive the swarm for me. In three-quarters of an hour he arrived. We had just before heard the queen "piping" in the cluster, so I was sure she was there; but before my friend had got close up, behold! the swarm took wing and was once again in the air! "There!" said I, "you are just too late; they are off!" but, to my amazement, the bees did not go "off," but actually retook possession of the skep, still on the ground, and hived themselves into it!

We were only too glad to leave them there till sundown, when they were safely run into the frame-hive I had prepared for them.

Three weeks later, with the help of my friend, the bees of the parent skep were driven and put into another frame-hive I had got ready.

As honey seemed plentiful, I gave the swarm a rack of sections, with a celluloid quilt above the latter, so that I could obtain a sight of the bees below. They filled fifteen of the sections nicely, but the others had not much honey in them, so as the season was about over when the first week of August came, I thought it advisable to get the lot off. This operation did not suit the bees, however, and they let me know it too. Up to this time they had behaved so well that I thought them ideal bees so far as regards being quiet when handled; but when removing the section-rack I found it stuck fast with brace-combs built to top of frames in brood-nest, and in prising it off I irritated the bees awfully, my smoker, too, kept going out, so that altogether it was a tougher job than I wish to have again. When at last I got the section-rack off I found the sections stuck fast with propolis and I had to dig them out with my knife. While this was going on the bees crowded over the frame-tops sucking up the honey from the broken brace-combs, but after I had got the bees cleared off the sections I threw the loose quilt over the crowds of bees above the frames and replacing the roof left them as darkness came on, and I was very glad to get away. Next evening I thought quietness would have been restored and went to see if I could complete my unfinished job of the previous night. On lifting the quilt up gently I found pieces of brace-comb sticking up above the frames nearly an inch high. These I started to cut and scrape off with my knife so that the quilts would fit down nice and close to the frames; but no sooner did I begin to scrape when the "bees came for me" in such a style that I had to throw the quilt over them and run. Then the order must have gone out for a "bayonet charge" and didn't they give it me! I first ran with my head into a row of peas, next into the runner-beans growing near by, and so on till the bees gradually left me as it grew dark, when I crept up to the hive, slipped the roof on, and left them for a full fortnight to cool down. But they never forgot it or me either, for on one or two occasions since I have only to lift the roof when the watchmen seem to give the word, "he's at it again!" and out they come and I'm off like a shot!

The celluloid quilt is very nice for watching the bees through, but it makes such a rattle and upset when removing that it seems to irritate the bees. I have covered all down for winter by filling the hive top with hay.

I manage to get a lot of useful hints from the B.J. which I have read since last February. I also have Cowan's "Guide Book" and Simmin's "Bee Farm," both of which afford useful information.

I am not in one of the best of countries for honey gathering, as I live on a hill close to several large collieries, but I had no trouble in getting 1s. each for my few sections. My friend did not got a very big average from his four hives in run honey but he tells me he realised 1s. per lb. for it all, something under 100 lb. I shall have to give you my experience in uniting driven bees in autumn, when I write again, if you care to have it.—TOM SLEIGHT, *Chesterfield, Derbyshire, January* 1, 1900.

TEMPERING STEEL.

[3881.] Referring to my letter on bending honey-knife (3867, p. 512), I regret that (owing to a domestic bereavement) I have not been able to accept the correction in editorial footnote before this. I was fully aware of same, and can only suppose that Christmas must have had something to do with it. Regarding the letter from Messrs. Blomfield & Co. on same subject, on page 6 last week, one is almost inclined to remark, "nothing like leather." As one who is constantly writing for the benefit of amateurs, I always find it bad policy to make a job appear too hard to accomplish. I was fully aware of the possibility of (in theory) distortion; but in this case, as I had bent my own knives (Bingham's) without it taking place and by the very method which I described in your pages, I must be excused from not having considered it worth while mentioning. I shall be pleased to send a knife for inspection, if you wish to see one. It would be interesting to have the experience of any reader of the B.B.J. who attempts the by no means difficult task. A rough test to see if temper is right, is to "rub" with a file; if too hard the file will glide over the knife; if too soft will easily abrade the surface; if right the medium between these two extremes.—Will Hamilton, *Richmond, January 8.*

BEES IN THE ISLE OF WIGHT.

[3882.] I am forwarding you a sample of honey from here, and would be glad to have your verdict as to its "points." I have taken about 3¼ cwt. from eight hives in the past season. I only had one swarm and have reared eight young queens to replace the old ones, most of the latter being in their third year. These young ones were introduced very successfully during the second week in August by direct introduction, every one being accepted, and each laid a splendid lot of eggs before the season closed. Our honey-crop about here is from sycamore, horse-chestnut, maple, the different fruit trees, white clover, yellow trefoil, limes, blackberries, and heather, both sorts of heath growing on the downs. My bees are located in a very exposed position midway between the sea and the top of the downs, about 500 ft. above the sea-level. They thus get the full force of the east, south, and west winds, and I lose a great many bees in the spring owing to high winds. I make all my own hives during the winter-time; they are on the "W. B. C." plan, which I find answer the best. I am only a young hand at bee-keeping, with but five years' experience. I intend sending you a photo of my apiary this summer, hoping to see it in the "Homes of the Honey Bee." I find the "Guide-Book" my best friend in the bee-line, and I think if some of your correspondents would study it a little more closely and think a little more about its advice you would not have so many questions to answer. I often have a laugh at some of the simple questions you are asked to reply to. I have taken the B.B.J. for five years, and I thank you very much for the information I get from it. I did not mean to write such a rigmarole, but, as my wife says, "Once I get started on bees there is no stopping me."—"Isledon," *Isle of Wight, January 6.*

BEE NOTES FROM ITALY.

[3883.] We have some bees which we bought last spring, and wish to work them for section honey, but cannot get any proper sections here; so, presuming on my past experience of your kindness in advising brother apiarists, I write to ask you to oblige by giving us the address of a firm from whom we could buy them. We would buy one thousand at a time.

The Italians (so far as I have seen) are far behind the times in their ideas of bee-keeping, and their hives are such clumsy things to work with that it is almost impossible to manipulate them without killing bees; but the bees are very gentle and easily handled.

Most of the hives open from the back, and the bars slip in on grooves cut into the sides; thus, if you wish to see what is being done in the front combs, you must first take out all that are behind.

Our bees are kept at a villa, about twelve miles from Rome, where we spend the summer vacations.

I looked in to see how they were doing the other day, and found that the stock of winter food I left them in November has been considerably increased, they have a good deal of brood, and the bees were crowding in with loads of pollen as merrily as we used to see them doing in Scotland in April and May, when the willows and dandelions, &c., are in full bloom. I shall be delighted to send you, next summer, a few photos of the best apiaries around here, if you think they would be of any interest to the readers of the Bee Journal. Wishing you the compliments of the season, and thanking you in anticipation.—J. Allan Gray, *Scots' College, Rome, December 30.*

[Any of our advertisers will supply sections. Best thanks for good wishes, and we will be very pleased to have a specimen photo.—Eds.]

Queries and Replies.

[2321.] *Wax-Moth in Combs.*—1. About the end of July I re-combed some of my hives, putting the combs into a not over-tight box in an attic, the window of which was, during the hot weather, often open. I now find a couple in bad condition with wax-moth, the worms being in all stages of development. These have been carefully scraped, but I suppose are dangerous to keep, and must be destroyed. As to the other combs in the same box, which are but slightly affected, and

others which seem to be all right, what can be done to make them quite safe for future use? Also, how must the box be disinfected? My view is that the moth got access to the combs after they were taken from the hives; but of course it may not be so. 2. Is it advisable to use brown paper between the quilts to give extra warmth in wintering? 3. When removing section-racks would it be practicable to place, say half-a-dozen, in one large box fitted with cone escape? Would the bees leave readily, or would they fight?—LA RUCHE

REPLY.—1. Combs badly damaged by the depredations of the larvæ of wax-moth are rarely worth saving, and should, therefore, be burnt in order to get rid of the hatching moths. The combs not damaged need no disinfecting in the ordinary sense of the term. So long as there are no grubs now in them, and all living moths have been destroyed, the combs are safe for using again. Boxes containing combs should be carefully wrapped in whole newspapers, so folded before tying up as to prevent the ingress of the female moth. If there is any suspicion of wax-moth about hives from which the frames of comb are taken the latter should be fumigated with brimstone before packing away. 2. Yes. A paper covering above quilts is very useful in retaining the warmth of hives in winter. 3. It is better to clear the bees from each surplus-chamber separately, and far more advantageous still to do it by means of a super-clearer without removing the surplus-chamber from the hive until the bees have left it.

[2322.] *Specification for Bee House.*—I should be much obliged if you would give in your next issue full details for the construction of a bee-house for fourteen hives, with particulars as to size of wood, boards, nails, roof (galvanised iron or otherwise), &c.—W. S. PHILLIPS, *Wolverhampton, January* 4.

REPLY.—Such a specification as is mentioned above would require a practical joiner to prepare. The best we can do, therefore, is to reprint particulars of a bee-house for holding twenty-two hives by Mr. W. McNally in a former number of the B.B.J. and leave our correspondent to modify it for himself. Mr. McN. is a practical joiner, and in the article referred to, he says:—I have just made a bee-house to hold twenty-two hives. Size of house, 9 ft. 6 in. by 6 ft. 6 in. by 7 ft. high. There is no floor in it, and the hives sit on stands on ground, four on each side and three in the end. The door is in the other end, the top row of hives, 3 ft 6 in. from the ground, are similar to bottom. I leave here abundance of room to manipulate and storify if required, with room to store spare hives and appliances, and all secured with lock and key. I have not the least doubt but bee-houses can be made to pay in the hands of an expert, as I have wrought them for several years on a smaller scale. The cost of fitting up a house something like my own should be about £3 10s., or say 3s. 6d. per hive; any cheap hive will do for the inside. Scantling of timber for same is framing of 3 × 2 white pine; boards of dressed yellow ⅞ sarking, joints covered with strips 1½ × 1½; roof of ⅞ sarking and covered with Willesden paper, two-ply, the whole painted three coats white lead paint. One has here a substantial building to keep hives. I know the advocates of bee-houses are in the minority of bee-keepers, but I have found these houses, so far, profitable.

[2323.] *Wax Extracting.*—I extracted wax from cappings and bad shaped combs by means of the wax extractor, allowing the wax to flow into receptacle containing hot water, but the water was soon discoloured and, on removing the wax in cakes from the surface of water I found it to contain (when broken) between the flakes some of the discoloured water. What I am anxious to know is this: 1. By what means can I get the water from the wax, shall I need to put it through extractor again and then change water once or twice? 2. Which is the best method of remelting wax in order to run it into moulds? 3. Could you suggest any article or contrivance that is used for moulding 2 oz., 4 oz., or 8 oz. cakes of wax, that would give it a more saleable appearance? 4. About what is the current price of good wax?—W. P. SMITH, *Chichester, January* 6.

REPLY.—1. Wax "cappings" should be kept apart from old combs when rendering down or extracting. If wax is discoloured it needs remelting several times in clean water to get the residue away. The wax, after melting, should be allowed to cool gradually till cold, when it may be lifted off surface in a solid cake. If the "Gerstin" extractor is used two meltings should be sufficient. 2. Insert the vessel containing the wax in boiling water till it is perfectly liquid. 3. The tin "patty-pans" used in cooking make useful moulds or an eggcup will do. 4. About 1s. 6d. to 2s. per lb. according to quality.

A FOSSILISED BEE COLONY.

"There is some interest of an unusual sort in discovering the bodies of bees which flew about and worked industriously 'hundreds of years ago.' It is said that while digging at Bottisham Lode, about seven miles from Newmarket, some men came across a piece of bog oak, about 100 ft. long, in a splendid state of preservation. On splitting a part of the tree they saw an aperture, and, on more closely examining it, found a perfect honeycomb, in which were some dead bees. There can be little doubt that the aperture was downwards when the tree fell. Several naturalists who have seen the curiosity are of opinion that the oak has been lying in the peat and gault for hundreds of years. It was several feet below the surface."—*Daily Mail.*

The above extract from a geological point of

view is exceedingly interesting and one serving to show how bees and combs can be preserved for many years in a fairly good condition. It would be interesting to know how many years this buried community had been under ground; in any case, the fact testifies to the wonderful preserving powers of the bog-gases.

As regards geology generally, we must consider our bees as comparatively "modern inventions."

Only isolated cases of bees having been found in a fossil state are on record.

Recently, also, a piece of supposed petrified honey-comb was said to have been found; it is, however, evident that the fossil was an *Echinus* (sea urchin). A certain coral still to be found in various places in East Prussia is said to bear a still greater resemblance to a piece of honey-comb. The coral in question is the *Favorites gotlandicus*.

In speaking of the above as a "fossilised bee colony" I use the word in its wider sense, a fossil meaning as it does "dug out of the earth," fossils from the Latin *fodere*, to dig.—R. HAMLYN-HARRIS, F.Z.S., &c., January 8, 1900.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

DECEMBER, 1899.

Rainfall, 1·82 in.
Heaviest fall, ·25 in., on 29th.
Rain fell on 19 days.
Below average, ·99 in.
Maximum Temperature, 51°, on 1st.
Minimum Temperature, 20°, on 15th.
Minimum on Grass, 16°, on 28th.
Frosty Nights, 23.
Sunshine, 54·6 hrs.
Brightest day, 25th, 6·3 hours.
Sunless Days, 13.
Below average, 7·1 hours.
Mean Maximum, 38·9°.
Mean Minimum, 29·9°.
Mean Temperature, 34·4°.
Above average, 4·0°.
Maximum Barometer, 30·58°, on 3rd.
Minimum Barometer, 28·27°, on 29th.

L. B. BIRKETT.

WEATHER REPORT

FOR THE YEAR 1899.

WESTBOURNE, SUSSEX.

Rainfall, 26·8 in.
Heaviest fall, 1·54 in. on November 5.
Rain fell on 151 days (av. 172).
Below average, 1·98 in.
Maximum Temperature, 84°, on Aug. 3rd.
Minimum Temperature, 20°, on Dec. 15th.
Minimum on Grass, 13°, on Mar. 1st.
Frosty Nights, 76 (av. 76).
Sunshine, 2,230·5 hrs.
Brightest Day, June 15th, 15·3 hrs.
Sunless Days, 46 (av. 61)
Above av., 403·7 hrs.
Mean Temperature, 48·7°, (above av. 1°)
Maximum Barometer, 30·75°, on Feb. 28th.
Minimum Barometer, 28·27°, on Dec. 29th.

L. B. BIRKETT.

Notices to Correspondents & Inquirers.

A. B. C. (Cambs).—*Sections of Honey for Bee-food.*—If the honey in sections is still liquid, they will do very well for feeding in spring. In using, bruise the cappings slightly by scratching the surface, lay the section flat over the feed-hole of hive, and cover it with a lidless box of any kind large enough to confine the bees to the section. One-half of a glazed section case answers the purpose well, and allows one to see when the honey has been carried down.

C. F. GEORGE (Lincs).—*Old-fashioned Bee-keeping.*—The word "pannings," in your letter (3864, page 511), is a printer's error. We read the word as *panmugs*, that being the term used to our knowledge in Yorkshire, Lancashire, and Cheshire for the large earthenware vessels used by the country-women for washing the clothes and preparing the bread for the oven. We had never heard these called "pancheons," but the "panmug" was familiar to us in our earliest experience of bee-keeping, and we have had as many as eight or ten of them in use at one time as coverings to the skep hives we then used for swarms, just as shown in the picture on page 511.

G. SPEARMAN (Andoversford).—*Queen-rearing.*—1. We have never experimented with the "Lamp Nursery" in queen-rearing, nor do we think it suitable for the ordinary bee-keeper, however useful it may be to those who make a business of queen-rearing. If, however, you are particularly desirous of trying it, the best course would be to procure a copy of Simmins' "Modern Bee-Farm," where the lamp nursery is described very fully, and an illustration given of it. For us to provide a tone-block from photo of the appliance for you, as desired, would cost the price of the book mentioned several times over. 2. We could give you the name of a queen-rearer in Carniola, but unless you can correspond in French or German it will be of no use. 3. If photo of your apiary is suitable, we will be very pleased to include it in our "Homes."

W. COOPER (Ryde).—*Queen-rearing.*—1. Our reply on page 8 was largely based upon the impression (gathered from your letter) that you were somewhat inexperienced in queen-rearing and artificial swarming; hence our advice "not to commence operations *early* in the spring," because of the many risks of failure through want of practical knowledge. By deferring operations till the weather is settled, and the risk of night frosts are over, the chances of success will be much greater; but while so much depends on the weather at the time, we cannot give a date. 2. With "numbers of black bees kept within a mile" of your apiary, the chances of your being able to depend on having queens crossed with Carniolan drones are far from bright. We would, therefore, use the Carniolan eggs for queen-rearing.

Editorial, Notices, &c.

"ROYAL" SHOW AT YORK.

We have been favoured by the secretary of the Royal Agricultural Society with an "advance copy" of the prize schedule of the annual show to be held at York, from Monday, June 18, to Friday, June 22, next. We hope to print in our next issue the full prize list for honey, hives, and bee-appliances. And in the meantime, may draw the attention of intending exhibitors in the bee-section of the show to the fact that **entries close on May 1**.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of December, 1899, was £317.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

TOTAL HONEY IMPORTS FOR 1899.

The total value of honey imported into the United Kingdom during the past year is shown in the following monthly returns for 1899 as furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs :—

January	£2,736
February	1,593
March	576
April	2,364
May	5,346
June	2,791
July	6,205
August	1,358
September	1,715
October	1,672
November	451
December	317
Total for the year	£27,124

PARTHENOGENESIS,

AND THE PART IT PLAYS IN THE DEVELOPMENT OF THE HONEY BEE.

BY R. HAMLYN-HARRIS, F.Z.S., F.E.S., &c.

(*Concluded from page* 14.)

I will now turn to the methods of study and examination employed by Dickel, and these will suffice alone to explain which theory must eventually carry the day. Dickel makes the following assumption :—"If we insert into a hive a clean comb, and (as soon as the queen has deposited her eggs) we remove the bees, cover closely with wire gauze, and replace in the brood-nest, according to the old teaching larvæ would appear after three days; but, in fact, we find only dried-up bees' eggs. This is surprising, as we have always found that bees' eggs remain days and even weeks fresh.

"Let us take as a further experiment a comb with eggs one or two days old :—cover as before, and we should find after three days a number of larvæ, only, of course, starved. Eggs remain fresh for some time if removed from the hive. We learn through this experiment that 'the self development' of the bee does not exist, but its development depends on the influence of the workers on the newly laid bees' egg—be it fertile or unfertile. About ten days ago I inserted a comb from a drone-breeding hive with sealed-over drone comb. The next day there were two or three eggs laid in each cell, but although the comb hung in the warm brood-nest only one larva hatched out. This only because the comb was not covered by the bees. Thus we have the key to the riddle why living creatures proceed even from unfertilised eggs—because the egg has in itself no vitality, but the power to produce life is connected with the workers, and this affects the fertilised egg also."

Was there ever a more nonsensical experiment, the results of which prove neither one thing nor the other?

Mr. Dickel, a "would-be scientific man," approaches his subject, as might be expected, in a most unscientific manner. In his *Bee Journal* for October 15 he proclaims the death warrant of his theory when he gives a supposed quotation from Goethe : "Microscope and telescope really confuse the normal mind of man."

Although this remark was not made until science had "brought him in guilty," nor until the microscope had detected that which Dickel would rather was not made known, this needs little comment; but was there ever before a man in latter years who objected to the researches of the microscope? You will, therefore, see how impossible it is for any one to meet Mr. Dickel on anything like a fair field, he having thus placed himself outside the bounds of science.

At Cologne, in his lecture, Mr. Dickel made the following daring assertion : "In a large apiary we often experience that bees try to raise queens from young drone larvæ and the offspring of a normal mother. These do not fully develop, but oftener die before pupation. Now it is of the greatest interest to understand why this should happen; the 'old' teaching says the drone larvæ cannot exist on the food suited to the royal brood. This superficial explanation cannot satisfy any one; a number of insects nourish the larva of both sexes with exactly the same food.

"*Now, however, we have light on this subject.*" The italics are mine.—R. H. H.]

Some of these drone larvæ of exceptional

length of body were examined by Dr. C. von Rath anatomically. He could find no signs of the essentially female organs, but the examination showed a remarkable arrest in growth of the essential drone organs. There were only traces of the ducts and a faint trace of the *basa diferentia*, the *vesicula seminalis* were entirely absent, and not the least vestige of the otherwise strongly developed *armor copulatrix* could be discovered."

Before a fortnight had passed, Dickel had publicly to admit that in this matter his understanding was in the wrong. A friend of mine, having in his possession a letter from Dr. C. v. R. himself, in which the latter denies ever having made any such discovery. Dickel is compelled to write in the *Nördlinger B. Zeitung* that he had failed to understand the article, and that Dr. v. R.'s paper had nothing whatever to do with the point in question.

The statement under the circumstances was a bold one, and had it not been for my friend, Mr. Reepen Dickel would have continued to "gull" his hearers and readers in this way. I lay special stress upon this, proving, as it does, how incompetent this shows him to be of an independent judgment on any scientific point, and serves to show my readers one of the "methods' adopted to endeavour, at all costs, to carry through his ideas.

I have dwelt somewhat on the practical side of the question ; but there is a much more important side which we shall have to consider, and which plays the most important part in the development of the honey bee.

However, by so doing, I shall be treading upon ground somewhat out of place in the BRITISH BEE JOURNAL, intended as it is for practical bee-keepers ; but my paper would be wholly incomplete were I not to give an explanation of this side of the question. I must therefore be pardoned for doing so.

Leuckart could prove, as far back as about 1855, that of the many drone-eggs which he examined he never found one single spermatozoa, but that the latter were only present in worker-eggs.

This was confirmed by Von Siebold in a most unquestionable manner, quite irrespective of Leuckart's researches (see "True Parthenogenesis in Moths and Bees, 1856.")

It is, of course, generally known that each egg has to undergo a process of ripening ere it reaches the state when the ovum (viz., female pro-nucleus) is ready to unite with the spermatozoa, and until this process has been gone through the act of fertilisation of the egg cannot take place. It is, then, the events before and after this act which we must consider in their fullest bearings. Each egg contains a nucleus in which complicated changes take place. This nucleus has to become enlarged and convoluted until finally the threads, under the influence of the nuclear spindle, are separated into two groups ; divide, and these form the "daughter nuclei." It is of the utmost importance to treat this inquiry and place the matter in the light of science as known in the present day.

It has been a known fact for some time now that there are microscopical differences between the eggs of insects produced in the ordinary way—namely, by means of fertilisation—and those eggs which we may term parthenogenetic. In any case, one thing is certain, that they must both pass through the period of maturation prior to the development of the embryo.

Minot, in 1877, gave expression to the idea that parthenogenesis was due to the failure of the egg in forming the polar globules. (German, "Richtungskoeper.")

Other conflicting opinions of the same nature were given expression to, but they were, however, supplanted in some degree by the discovery of Weisman in 1886 (*Zoolog. Anzeiger*, vol. ix., 1886 ; also referred to in *American Naturalist*, vol. xxi., 1887, p. 203) that the parthenogenetic eggs of the daphnidæ produced one single polar globule.

Hardly had two years passed since the event just narrated before Professor Dr. Blochman made a still more significant discovery, by which he found that the parthenogenetic eggs of the aphis produce one polar globule, while the fertile eggs produce two. Professor Blochman further showed that in insects the polar bodies remained embedded near the periphery, and were not actually thrown out.

Up to this time only eggs producing females parthenogenetically had been those examined and reported upon, and this induced Professor Blochman to endeavour to determine the number of polar bodies in those eggs which produced males parthenogenetically. For this purpose he took as his object the eggs of the honey-bee, and in 1889 he published in the *Morphologisches Jahrbuch*, vol. xv., p. 85, 1896, his paper entitled, "As to the Number of Polar Bodies occurring in Fertilised and Unfertilised Bees' Eggs," with the result that he could definitely point out and prove that in the parthenogenetic egg of the honey-bee two polar globules are formed, and that the two polar globules are brought about by a twofold segmentation of the ovum.

This discovery—coupled with that of Platner in connection with the Butterfly (*Liparis*)—no doubt influenced Brauer in 1893 in the framing of the sentence that "there are two types of parthenogenesis which may occur in the same animal. This seemed to contradict Boveri's statement that "parthenogenesis might be due to the retention of the second polar body in the egg and its union with the egg-nucleus." "The second polar body would thus, in a certain sense, assume the rôle of the spermatozoon and it might not without reason be said parthenogenesis is the result of fertilisation by the second polar body ;" but it will be seen that it is in no way excluded thereby.

For some years only few had the audacity to publicly call these many and significant re-

searches of some of our most celebrated zoologists in question, but evidently the time had arrived when the theory of parthenogenesis must be confirmed or abandoned.

I, for one, under the able leadership of my friend and teacher, Dr. Blochman, Professor of Zoology in the University of Tübingen, commenced research into these matters, but, unfortunately, through illness and lack of time, I was forestalled by one W. Paulke, in Freiburg, who confirmed Dzierzon's theory entirely as well as the discoveries of Blochman and others.

Dickel insists on the eggs for examination being not more than about fifteen to twenty minutes old. After this time the workers may begin to exercise their influence by dropping some of their secretion into the eggs, and then, the sex being determined, microscopical research would be useless. Such eggs Dickel himself supplied to Paulke, who, in the *Anatomischen Anzeiger*, mentions the following details :—"The result of my work has been the successful identification of spermatozoa in eight to twelve worker-eggs about a quarter of an hour old (laid in worker-cells), whilst in about 800 eggs from drone-cells which I examined, no spermatozoa could be identified with certainty ; only in three cases I saw small dark points which might just possibly be taken for spermatozoa. Never, however, in eggs from drone-cells were the characteristic "sperma-rays" to be seen, rays which are always clearly visible in eggs from worker-cells. In those eggs laid by "fertile workers," of course, neither spermatozoa nor the rays previously referred to were to be seen.

Of the difficulties experienced in such experiments and examinations I need not speak here, and v. Siebold and Leuckart may be excused if their work in the past was not sufficiently determinative, for microscopical technique has made most extraordinary strides since their day. But now everything is quite clear, and until Dickel and his supporters can prove all these overwhelming facts to be wrong and unfounded, parthenogenesis in bees can in this respect be the only correctly recognised teaching of our day.

It is a significant fact that the *Nördlinger Bienen Zeitung* (bi-monthly), established in 1844, by Andreas Schmidt, and carried on by Wilhelm Vogel until two and a half years ago, when Mr. Dickel became editor, has with the last number, viz., December, 1899, ceased to exist.

I have now come to the end of my paper, and can only appeal to your sensible readers as to whether my judgment given a year ago was not correct. But can it be that Dickel himself cannot see the absurdity of the whole thing, or is it—

> And while his tongue the charge denies,
> His conscience owns it true ?

Nay, I fear he is blinded by love to it all and cannot give up that on which he has staked his life, his hopes, and, perhaps, his all.

But, having obstinately set his face against every fair argument and shut his ears to every common-sense view, I can only leave him, like Cowper's "Retired Cat,"

> To learn in school of tribulation
> The folly of his expectation.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate refrence, Correspondents when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3884.] *Buying and Selling Honey.*—This topic is still to the fore in our journals, and as so much of the future success of the craft is dependent on the question, I hope to see it discussed in all its bearings. Taking comb honey as the most fragile and perishable of the two forms in which our commodity is offered for sale, a few words may not be amiss on the best place to store comb honey so that it may be in good condition when the order comes for placing it on the market. A dry warm store cupboard, fitted with strong shelves, is a good place for the purpose ; or a nice dry room upstairs answers very well indeed, as I have personally proved for many years past. Honey in sections should have the wood in which it is stored carefully cleansed, *i.e.*, scraped, every particle of wax and propolis being removed from the edges and the bottoms thereof. Next spread a sheet of paper, cut the size of the bottom of the racks in which the sections were worked on the hives, and, after carefully grading each one, according to weight and colour, replace them in the racks and wedge up tight. Then put another piece of paper above, to keep the air away from the honey. Now select the driest position, where the chimney of the room below runs up, and stack the racks containing honey one on the other, and if the sides of racks are not quite flush with the height of sections, lay some strips of thin wood on the edges, so that the weight of the sections will fall on the sides of racks. Then, when your order comes, glaze the sections as required, and they will thus reach your customer in good, clean, saleable condition, fit to offer to any one. They may,

of course, be put in cases unglazed, the only difference being that by glazing one's own section we will have the difference between the cost of glazing and the cost of boxes or cases already glazed to the good, or for one's own pocket. In a gross parcel this would amount to about twelve shillings, which little sum is often a desirable and useful addition to the profits of the bee-keeper. There are many in our ranks to whom these small items are of great importance.

Storage of Extracted Honey.—This item is not of so much importance. If it is put in new clean store tins after extracting and stowed away in a dry room honey requires very little further attention until sent to market; or it may be jarred off after extracting in the most saleable style of jars and stored in a dry room. I should not advise that glass jars be labelled until orders are received for its dispatch, because honey sometimes finds its way out of the jars in quantities sufficient to spoil the labels.

Sending Samples.—When ordering spring goods I advise getting a few sample jars, 2-oz. size. These will be very useful for sending by post to inquirers for honey, and if packed in a tin box, with a small piece of corrugated paper rolled round the bottle inside, the tin will travel safe and you will not call forth our friend, Mr. Roden's (3871), remarks on the unkempt methods of sending samples in vogue at present. At the same time you will earn the gratitude of the G.P.O. officials.

Postal Packages.—Section honey should never be sent per post. The chances of safe arrival are few after passing through so many hands; even if marked "fragile" it does not command the care requisite to ensure safe transit for so easily damaged an article as honey in the comb. Sections of honey should always be sent carefully packed in boxes, with each parcel well surrounded—top, bottom, and sides—with soft packing material, and labelled with a "Don't Jar" label of prominent appearance. But in larger parcels I do not consider that any package should weigh over 1 cwt. If cases exceed this weight very much the railway porters will handle them roughly, often turning them over carelessly and then not steadying them down. When packages are under 1 cwt. and provided with cord handles at each end, they can be drawn or lifted about without damage to contents, and goods will reach customers in good condition. Remember that a pleased customer is a bee-keeper's best advertisement. By attending thus to details our friends will be enabled to make the best price for their produce and extend their market, and it will be these lines that we shall eventually be able to quote "market prices" for our articles such as our American friends get in journals devoted to the craft of bee-keeping. They have adopted certain "grades," and the market quotations are for those qualities. Large firms in different cities of the States send trade notes and quotations, such as "Very little honey on the market; those having it, please write. All kinds—'Fancy white' down to 'buckwheat honey'—sell well. Prices range from 16 to 17 cents down to 5 cents, according to quality," and so on. For ourselves, we are not going to get all we want in a month or a year, but until a start is made we are losing time in reaching a very desirable point in our industry. We already find that market salesmen are willing to handle honey along with fruit and flowers, and though this market may not bring top prices, it will help to provide an outlet for a good quantity at a moderate price and for spot cash. Then, when any particular brand of honey has made a name like "Lazenby's Sauce" or "Crosse & Blackwell's Pickles," better prices will be realised while market quotations in the B.J. will help to establish market prices, and so enable us to emerge out of the present chaotic system and establish market quotations. No doubt there will be a slight variation in prices, say, in London, Birmingham, Manchester, and Liverpool, and the cities ayont the Tweed, but that ought not to deter us making a start.—WM. WOODLEY, *Beedon, Newbury.*

(*Correspondence continued on page* 26)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Ford, whose apiary is shown this week, is another shopkeeping tradesman who has found a pleasant and profitable hobby in "the bees." Like so many others, he also makes his own hives. It is quite surprising to find busy tradesmen who are bee-keepers taking so much pleasure in doing home-work as amateur joiners, and doing it very well, too, judging by the substantial and good-looking hives in the photo, which forms our "Homes" picture on the opposite page.

Writing of himself Mr. Ford says:—

"The idea of keeping bees was first aroused in me by reading an article on bee-keeping written by an Oxfordshire clergyman, which appeared in "The Parish Magazine" of 1887. So in the early part of 1888 I bought a stock of Cyprians to start with, being taken up with their beautiful appearance. The year, however, turned out to be so exceptionally wet and unfavourable in our district that I had to feed the bees all through the season; not an ounce of honey did I get and so ended my first year of 'keeping' bees in the true sense of the word, for they had no chance of keeping themselves, much less with gathering any surplus. But having put my hand to the plough I determined not to be daunted and have since pushed on cautiously.

"I make my own hives, which are a modification of the 'W.B.C.' They consist of outer cases with a break-joint, for the making of

which I had a special plane made in Birmingham. Each hive is provided with one standard and one shallow body for surplus-honey in addition to the brood-box; and always using a framed queen-excluder between brood and surplus chambers. The inside boxes are 17 in. square, so that in winter and early spring the frames may be made to run parallel to entrance, it being warmer, I think, when so arranged and causing stocks to get strong earlier. About the middle of May the brood-box is reversed, thus making the frames to hang at right angles with the entrance and securing better ventilation in hot weather. I may here say that I have not had a swarm from any of my hives for the last five years, simply by always giving

MR. W. FORD'S APIARY, WOOD HAYES, NEAR WOLVERHAMPTON.

room in advance of their requirements. I allow my queens to live till the middle of the second summer and then replace them with young queens already waiting in nucleus hives. Now and then I purchase a queen of advertised merit in order to infuse fresh blood in the apiary. The kind of bee I prefer are the Italians who work early and late; and next to these I like an English queen crossed with the Italian drone.

"My district is very good for both quantity and quality of honey, averaging between 60 lb. and 70 lb. per hive in a favourable season, the bulk of which is clover honey, the remainder being from fruit and hawthorn blossom.

"My apiary at Wood Hayes is three miles distant from Wolverhampton. The ground occupied by the hives I rent, also a room in the cottage in which to keep my appliances, and there I resort every Monday and Thursday evenings during the spring, summer, and autumn months, and the pleasure derived from looking after the stocks is unlimited, to say nothing of health obtained from such a delightful and profitable hobby.

"My home and business—in the grocery trade—being in the centre of Wolverhampton, I have no difficulty in disposing of my honey and wax and have worked up a good connection for it by attending to the neatness and cleanliness of the package as well as the quality of the produce which is the keynote to success. I have also a good trade in bee-candy, a great many bee-keepers in this district using it. In addition to my ordinary business I am a third class certificated expert of the B.B.K.A. and am also organist and choirmaster of Holy Trinity, Heath Town, and when I have done my work at the apiary I go to the church to take the choir practice (which is on my way home), so altogether my time is fully occupied.

"I value the B.B.J. and *Bee-keeper's Record* very much indeed, having had valuable information from them during the twelve years I have taken them in. Indeed, I think no bee-keeper can afford to be without them. I may say the same of the "Guide Book," which is to my mind, indispensable."

CORRESPONDENCE.

(*Continued from page* 24.)

MAKING MONEY BY HONEYED EXPERIENCES.

ALL PREVIOUS RECORDS BROKEN.

[3885.] In the summer of 1898 I went along with my wife to visit a friend, who is an old hand at bee-keeping, and possesses about thirty hives. Being just in the middle of the heather harvest, I had an opportunity of seeing his manipulations, and, after noticing how beautifully everything was managed, I decided to go in for bee-keeping. Consequently, in the early months of last year, I returned to my friend's place, amid frost and snow, to fetch my first lot of bees. Having duly installed them, I began to make preparations for the great events of the season, viz., swarms of bees and surplus honey in plenty.

My first care was to purchase the best of everything in the shape of foundation, frames, appliances, &c., and finished up with a patent "swarm-catcher."

All went well until the first Sunday morning in May, when, being very hot, the bees started to swarm. I at once put on the "catcher," and immediately the swarming ceased!

From that day the weather changed, and for four or five weeks it was bitterly cold. I nevertheless kept on the "catcher" (mark the name) in case of a swarm issuing, but no such luck, although the hive was literally packed with bees. In my distress, I sought the advice of an "expert," who turned out to be a real friend in time of need, for he not only gave me advice, but actually drove in about five miles to my place and made me an artificial swarm, refusing to make any charge for his services; he also put the supers in position over the old stock, and the bees soon began to work.

The result of the artificial swarming business was not altogether satisfactory, and my friend therefore advised me to return the bees to the old hive, he supplying me with another very good swarm and queen.

Being anxious to get the "returning" job over, as it was getting rather late, I made for the bees in my cycling suit, putting on a veil, but no gloves. I suppose it must have been my sweetness, for, as soon as the covers were removed, the bees "made for me!"

Now, Mr. Editor, please do not smile, but if you have ever seen a pan of dough well raised for baking purposes, you can imagine my appearance the next morning. My arms were the size of my calves, which were equal to my thighs, and my neck was that of a veritable John Bull. In fact, I could not fasten my shirt for four or five days, at the end of which time I began to revive as one from the dead.

After that I left the bees severely alone to work out the two racks of sections, which were soon completed and sealed over. A few days after, on a bright morning, before going to business, I removed both racks of sections and placed them on a box at the back of the hive-stand, putting another box on top to prevent "robbing."

It is said, Mr. Editor, that "Hope deferred maketh the heart sick," but not so my blessed bees, or I might have recovered some of my honey, for what is sweeter than your first honey in the comb, *when you can get it?* (The bees got mine.) You can, therefore, imagine my disgust, when I returned home, to learn that it was all gone before twelve o'clock, and my beautiful sections were empty, the comb cappings all in crumbs at the bottom of racks.

There had been two thin laths across top of box which I had not noticed; the bees, of course, finding out what I was blind to, soon discovered a ready way in. To parody Dr. Watts, I may say:—

> How doth the little busy bee
> Delight to rob outright,
> And carry off the valued stores
> Its owner had in sight.

My splendid stock, from some unknown cause, now became queenless; so, of course, I had to procure another at the cost of six shillings. It was now near the end of July, and I received from my first friend a kind invite to take my bees to him on the moors for the heather harvest. I jumped at this offer from "Klondyke," thinking it would partly make up for my previous losses. Well, sir, we (the bees and I) arrived at the "goldfields" on August 12, about 11 p.m., but I did not open out the hives until next morning, when everything seemed all right and the bees flew well. Two days later I went to gloat over my rapidly-filling sections, but on examination not a bee was to be seen in them. I, therefore, waited until the 17th, when, to my utter surprise, I found the sections all full (of foundation, which I had put there), and so they continued till the end.

Now, Mr. Editor, the curtain (pall I mean) is about to drop, for the scene is nearly ended. I again packed up my bees, according to "Guide-book," and returned home. At six o'clock next morning, upon unpacking my two hives ("W.B.C.s") I found something was wrong as the bees did not come out, and, upon closer inspection, found the entrances choked up with dead bees. But that was only the preliminary, for inside there were close upon three quarts of bees, all dead (the reason I shall never know), and among them my Carniolan queen. So another six shillings had to go for a new queen.

Before starting for the moors, I wrote my sister, saying, "Hope to return with about 60 lb.," and so I did, but the hives were included in the weight, for instead of adding to their already too-full stock box, they had to live upon its contents; consequently, I had so much less than when we started for the moors,

the reason being, there was not much depth of soil, and the drought being so long, the heather had shrivelled up in the bud, along with all my hopes of profit. In conclusion, let me say that in my opinion there are swarms of catchers, but no satisfactory "swarm-catchers," and plenty of money to be made if you can only manage to make it, which I intend to do, all being well, this season; but in the meantime, until it can be proved that my record has been beaten, I shall certainly claim the championship and belt. Now for my balance-sheet :—

Expenses.

Hive and bees	£1	10	0
Rail expenses, &c....		9	0
Two queens		12	0
Part expenses to moors		7	0
Feeding-up		6	0
	£3	4	0

Income and Stock.

Honey sold...	(Ask the bees!)		
One hive and stock	£1	10	0
Balance at bank (missing) ...	£1	14	0

—"HOPE ON, HOPE EVER, *York, Jan.* 10.

[While we admire our correspondent's pluck and determination—as evidenced by his intentions for the coming season—he must forgive us for saying that, judged by the above details, bee-keeping is not a strong point with him, so far as possessing aptitude for the pursuit is concerned.—EDS.]

MOVING HIVES IN WINTER.

[3886.] As the subject of moving hives in winter has twice during the last few weeks been mentioned in your journal, it may not be quite out of place if I send you a short account of my own recent experience in this matter.

On Tuesday, January 2, I moved a hive from the position it had occupied all the summer to a field about a hundred yards distant, and out of sight of the old spot, placing a small glass case (originally occupied by a stuffed canary) in its stead. The rest of the week was wet, the bees keeping at home; but on Sunday (January 7) the sun shone warmly, and my bees flew freely for the time of year. After sundown I went to the temporary hive and picked up on and around it between two and three hundred bees (about a sixth of the number were under the glass) quite stiff and motionless. I took them indoors, breathed on them several times—till they began to move—then confined them under the glass, and put them before the fire till they were fairly lively. I then gave them a little warm syrup, and when they ceased to take it carried them to their hive. They set up a most cheerful hum when they discovered their whereabouts, and streamed in at their door. Next day I had only between seventy and eighty at the old spot, and this afternoon (the 9th) a couple of dozen; on the two latter days we have had as warm weather as on Sunday. If these particulars possess no interest for readers do not insert them, as your most pleasant paper will always uphold the character it has for many years retained. — S. OUSELEY, *Torquay, January* 9.

[We hope when next our correspondent moves bees under similar conditions as those referred to, he will follow the course we usually recommend of placing some easily distinguishable object (such as a small branch of a tree) across the hive entrance to alter its appearance and make the bees notice the change. This is usually effectual in preventing loss.—EDS.]

EXPORTING LIVE BEES.

SAFE DELIVERY AT THE FALKLAND ISLANDS.

[3887.] I thought it might interest some of your readers to know that I have successfully exported a stock of black bees to the Falkland Islands. The journey occupied six weeks, and I learn that only a few bees were found dead on arrival, apparently no more than the ordinary death rate at home during the close season. This is the longest journey I have ever known bees to be sent in safety; but perhaps stocks may have been sent a farther distance. If so, I should be glad to be informed when and where?—JOHN PERRY, *Grimsbury, January* 12.

[Without being able to state accurately the longest distance bees have been sent in safety, it may be pointed out that it is the time occupied, rather than the actual distance covered, which governs the test. We have the case of bees being first imported into Australia from England in the years 1822, 1824, and 1831 respectively (reported in B.J. of February 23, last year, page 73), and these bees, going by sailing ship, would, no doubt, take a very long time in transit. Regarding the result of his own effort, however, it reflects very creditably upon our correspondent's skill in packing bees for a long and difficult journey.—EDS.]

SEASONABLE QUESTIONS.

EMPLOYING THE TIME IN WINTER ADVANTAGEOUSLY.

Question.—As I consider it, my bees are all fixed for winter, my twenty colonies being all nicely tucked away in their chaff hives, each having from 25 to 30 lb. of sealed stores. Can I do anything further along the "bee line" till spring? I do not wish to make up sections, or prepare many hives till I know how my bees will come out, for so many of them may die that I shall want no more hives and sections than I have on hand now.

Answer.—Now that we are in the midst of long winter evenings, it becomes the duty of all to spend these evenings in such a way that

they may be gaining in knowledge along the line of the pursuit they have chosen in life. In no business engagement is this more imperative than where the culture of the bee is the chosen occupation, and in no way can this be done to any better advantage than in reading the bee-literature of the day, from which the mind is to be stored with useful knowledge which can be put into practical use as soon as the season of 1900 opens. When I first commenced bee-keeping I was greatly benefited by the writings of Elisha Gallup, L. L. Langstroth, Moses Quinby, A. I. Root, Adam Grimm, and many other of those early writers on this subject, for by their writings I learned my A B C in bee culture.

My first year of experience in bee-keeping by way of putting the things which I had read in practice, resulted in 12 lb. of comb honey and one swarm, from the two colonies I purchased to commence with. The next season I obtained 25 lb. of surplus from each colony I had in the spring, on an average. At the end of the fourth season I chronicled an average of 80 lb. of comb honey as the average surplus for each colony in the spring, while at the end of the eighth season my average yield per colony was 166⅔ lb. During these eight years I had studied, read, and practised all my wakeful hours, about bees, having great fun and keen enjoyment in doing the same, for I have never yet spent an hour (been in the bee business thirty years) in my life in work pertaining to bee culture without its being a real pleasure to me; and this was brought about by those winter evenings when I first began to read up the subject. Many and many have been the nights when I was awake from one to three hours, planning how to accomplish some result I desired to achieve in regard to the practical part of apiculture, which with the help of what I had read, caused me to accomplish what I had sought after. During all of the years which have passed I have found that, if I would succeed, as far as possible I should read mainly those books and articles which come from the pens of practical bee-keepers—those whose ideas come from their daily work among their bees rather than from theorising while sitting at the writing-table, for the former were the ones who made a success of their calling, and told just how they did it. If you wish to learn farming, to whom do you go—to the man whose farm is allowed to grow up to weeds and briars, with buildings unpainted and fences down, or to the man who produces good crops each year, has his fences up in good shape, with his buildings in attractive style and in good repair? To the latter, of course; and so you should do in bee-keeping. I am well aware that many of our most practical bee-men do not write for publication, and for this reason we can bring in visiting, during the winter, as another help along this line of our qualification. But when we visit we should not try to be a bore by staying two or three days, and during the whole time asking questions which are solely for self-benefit, for that cannot be called visiting in any sense of the word.

Some years ago a man came some distance to see me. I was sick, and confined to the house, yet was able to be dressed and lie on the couch during the day. After warming himself for a little he told me he had come to have a little talk about bees, when he immediately pulled from his pockets eight sheets of foolscap paper, written over on both sides, with questions which he began asking in a dry, tiresome way. As soon as I gave an answer he began to write it down; and if he could not remember all I had said, he asked over and over again, wishing me to go into the minutiæ of the thing, while he took it down. I stood it (or, rather, lay), facing him for two or three hours, till I thought I was too sick and tired to be held in that way longer; and, as he seemed to take no notice of the condition I was in, I thought I would give him a hint, so I turned over on the couch, with my back to him. As soon as he got through writing down the last answer I had given him, he very quietly took his chair and came around to the other side of the couch, and asked the next question. I stood it an hour longer, when I had to go to bed, completely exhausted, after which he asked my wife if she did not think I would be rested enough in an hour or so to visit (?) with him again. Well, to make the story short, he stayed that day, all night, and the greater part of the next day, during which time I was able to answer all of his questions, he taking the answers down, and, in departing, I had the consolation of hearing him say to Mrs. D., that he had had a good visit, and that he was very thankful for the good entertainment she had given him.

When you go to visit any bee-keeper, make it a *visit*, by imparting something as well as in receiving something. And don't try to get too much at once, for a little, well learned, is much better than having so many things come before you that you do not half remember any of them. Then we have our bee conventions, which are mainly held during the winter months, and for the especial purpose of gaining knowledge; and while the cost of attending may be considerable, yet if we improve the time as we should, we can learn more than enough to make that cost good, besides the benefit which we derive socially. All of these things are great helps to us, and should be eagerly sought after, as they will be if we have a natural qualification for the calling which we have chosen. If any persons love something else more than they do to study bee-keeping, and only do this as a sort of duty, let them be assured that they have mistaken their calling, and the sooner they leave it and go to that which at all times gives them pleasure, the better they will be off, and the better it will be for the world.

But I feel that I should say a word to our questioner about putting off getting ready for

next season till he knows how his bees winter. I cannot help thinking that this is a mistake on the part of very many. The question should be, "Am I to continue in the bee business?" If so, then I must be prepared for a *full* honey harvest from the number of colonies I have; otherwise that *full* honey-harvest may come and find me "napping." My plan has always been to prepare hives to the number I wish to increase my colonies to, should the coming season be the *best*, and sections to the amount of 125 lb. for each colony I have in the fall. And I do all of this preparing during the winter months, getting everything all in perfect order before the season opens, so that, when the time for active labour in the apiary arrives, I shall not be handicapped by not being in readiness for any "downpour" which may happen to come.—G. M. DOOLITTLE in *Gleanings* (American).

Queries and Replies.

[2324.] *Making Soft Bee Candy.*—I have made the above according to Recipe No. 3 in Cowan's "Guide Book," medicated with naphthol beta, but it came quite clear, not "white and buttery"; it is of a firm consistency, but not stone-hard. It boiled quite ten minutes, but it would not leave the finger easily when dropped on a plate before that. The best loaf sugar was used and recipe faithfully followed. What have I done wrong? Will the bees take it readily, or will it be injurious in any way?—(Miss) C. A. PHILIPS, *Radnor, January* 8.

REPLY.—We fear you have either mismanaged the boiling or the constant stirring while cooling which follows, until the mixture stiffens and begins to turn white like a stiff paste. The writer of the recipe referred to has himself probably made some tons of bee-candy without any failure, and the same may be said of hundreds of readers in a less degree so far as regards quantity. In view of this it is impossible for us to tell what our correspondent has "done wrong" to cause failure without seeing a sample.

[2325.] *Packing Swarms for Transit.*—Would you kindly inform me, 1, The manner in which swarms are usually packed for travelling? I refer to the case of the sale of a swarm. 2. Would you recommend the addition of pea-flour or other nitrogenous substance to be added to candy, which would be given to the bees within the next week or two? The district here is largely fruit.—"KENT," *January* 10.

REPLY.—1. Swarms purchased from appliance dealers are usually sent out in properly made "swarm-boxes," which cost about 2s. each. These are effective and safe. Those who understand the essential points of a safe package for sending live bees by rail can, however, convert a box bought for a few coppers from a tradesman into a perfectly safe makeshift box for a swarm to travel in, the main points being security against the bees escaping, and adequate ventilation. 2. We do not advise the use of pea-flour for stimulating breeding in spring until bees are seen to be carrying pollen from natural sources. It is then advantageous to give it them in candy.

[2326.] *Teaching Bee-keeping by Query and Reply.*—Will you kindly give your valuable assistance to me in reply to the following:—1. How can I cut an entrance into a straw hive so as not to make a frayed edge? Also I have a dome-shaped skep with no hole in top. How must I cut one to put a super on? 2. What must I do now, as my bees in one frame hive have dysentery and drop large soft yellow spots over hive? They are not a strong stock and have not much stores, but I have put a cake of candy over frames. 3. Do you have a "deposit system" for the selling of bees and honey and how must one proceed? 4. When can I make a nucleus from a frame hive, and how many frames must I take from one hive, or would it be better to take some from two hives? 5. How must I mix these up to make the bees unite happily? Will this weaken the hive very much and prevent them gathering large surplus? 6. Would you advise crown boards on top of quilts for wintering? 7. Would you advise putting a board over frames on top of excluder with a slide, so as to put super-box on top and then open slide to let bees go up and work, and to take off super shut the slide; it might have two slides?—"BEE COT," *Bath.*

REPLY.—We print the above, not with the view of replying in such a way as to be advantageous to our lady correspondent, for that would be an impossibility, but with the object of saying that the art of bee-keeping cannot be taught in our "Query and Reply" column. Moreover, the questions enumerated involve operations of the most simple and elementary character—with regard to straw skeps—alongside such things as forming nucleus colonies from frame-hives, and proposing an utterly impracticable arrangement with regard to queen excluders. We are relying on "Bee Cot's" forgiveness for this plain speaking, because it would be cruel kindness to even attempt a reply to her queries beyond the first one, with regard to which we venture to say the veriest tyro—who tries—can make entrance in a straw skep by using a sharp knife and cutting away the portion of straw left free from cane for the purpose. The hole in top is almost as easily made with a strong hand and a sharp knife; but the safe fixing of a super on a dome-shaped skep is not a suitable task for one totally inexperienced. For the rest, the best advice we can offer our correspondent is to procure a good text book on bee-keeping and study well all the various operations fully detailed therein before attempting such operations as are included in the queries printed above.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A BEGINNER (Llandudno).—*Glazed Shallow Supers for Comb Honey.*—Surely our correspondent must have failed to see the B.J. of June 1 last? Reference to page 209 in that issue will show that the question of working shallow surplus-chambers for comb-honey was fully dealt with and explained as promised. Moreover, many readers made trial of them with most satisfactory results.

F. BRIDGETT (Cheadle).—*Combs Infected with Wax Moth.*—The reply on page 19 referred only to combs "badly damaged" by the depredations of the larvæ of wax moth, and these, we repeat, are rarely worth saving, seeing that there is almost no wax left in them for extracting, and as *combs* they are utterly worthless.

"F. B." (Westmoreland). — *Bee-Houses.* — 1. We should not advise your trying to work six hives in a bee-house built to contain four, as described on p. 375 of B.J. for September 21 last. Nor do we think such a house quite suitable for working hives on the "Wells system." 2. The hives may be moved into the house any time after a few days' frost has kept the bees indoors. The changed appearance of the entrances after being in hives out in the open will reduce the chance of bee-losses to a minimum.

W. W. (Warrington).—*Apicultural Statistics.*—We regret to say there are no statistics available that would enable us to give even an approximate idea of the total number of bee-hives in use in the United Kingdom.

G. SAUNDERS (Keswick). — *Using Carbolic Acid.*—So far as regards Cowan's "Guide Book," the use of carbolic acid in the proportions of one of carbolic to two of water is only recommended for the purpose of painting hives and appliances when disinfecting, or in preparing carbolised cloths for quieting bees when manipulating. For disinfecting clothes, washing hands, spraying combs, and all such purposes where the solution would be injurious if carbolic acid is used too freely, the proportions advised are "1 oz. Calvert's No. 5 acid in 12 oz. of water." The figures "10 or 12" (on page 159) is a printer's error, and should be "10 or 11." This correction is being made in future editions. For bee-food, or for spraying combs, &c., either naphthol beta or soluble phenole (not carbolic acid) is recommended (see page 163).

MISS B. (Marylebone-road, N.W.).—*Keeping Bees in London.*—1. There is no reason why a hive of bees should not be as easily kept "on the leads at back of a house at above address" as in Hyde Park (*vide* B.J., p. 488), both places being within easy bee-flight of each other. 2. The only firm in London dealing in bees and appliances is that of Messrs. Jas. Lee & Son, who would, no doubt—if written to—give you an idea of cost for setting up a stock of bees as proposed at your house.

"LEARNER AND STARTER" (Notts).—It is very unwise for a learner—or, indeed, any one—to do any such examining of bees as will require removal of sections, because in hives on which surplus-chambers are being filled should not be interfered with so far as regards meddling with or upsetting brood-chamber. Such undue interference is one of the strongest incentives to robbing. 2. No artificial feeding should be carried on while stocks are storing in surplus-chambers. 3. Bee-candy is given in autumn merely to supplement stores suspected to be insufficient in food; the amount of candy therefore depends on the weight necessary to make up a full supply.

FROME (Som.). — *Inserting Queen-cells.*—1. The cell can be inserted in comb by cutting an aperture in which the cell is secured by "pinning," or it may be suspended between two combs as you propose, so long as it is made secure from falling down. *Using the Honey-extractor.*—2. After uncapping the sealed cells the frame of comb is inserted with the face of one side of comb close against the wire work of revolving cage. After one side of comb has been extracted the frame is reversed, and the honey from opposite side removed. We do not understand your description of "Meadow's" extractor for standard frames with "loose removable cages." We are not aware of any such in those of his make now in use. *Melting Wax.*—3. If an enamelled pan is used the wax will be as safe from discolouration as in an earthenware vessel. *Confining Bees to Prevent Flight in Bad Weather.*—4. On no account must bees be confined as proposed. *Simmins' "Direct Introduction."*—5. The number of B.J. in which this method of queen introduction appears is that dated April 5, 1888, page 181.

F. W. ASTBURY (Wellington).—*Binding the* BEE JOURNAL.—1. Our charge for binding in crimson cloth, lettered, is 2s. per volume, *plus* postage. 2. We cannot allow any value for loose numbers returned after being read. 3. The charge for *Record* is 1s. 10d. per volume, bound in blue cloth, lettered, *plus* postage as before.

S. G. LEIGH (Hunts).—*Illtreating Exhibitors at Shows.*—We are making inquiries with regard to your complaint, and will allude to it again later on. Meantime, we may say it refers to the same show as that dealt with on page 4 of our issue for January 4.

L. M. B. (Devon).—*Suspected Comb.*—There is no foul brood in comb, but the mouldy condition makes it only fit for melting.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—We need not now dwell upon this topic, beyond saying that for a long time past the weather has been generally dull, cold, and cloudy, with occasional storms, but anything like real winter in the full sense of the word has been conspicuously absent; bees have therefore, kept well indoors and quiet. So long, however, as stores are plentiful, roofs watertight, and all packings dry and cosy, anxiety about the bees may be dispensed with for some time to come. When warmth and sunshine tempt them outside on foraging bent, and their efforts are rewarded by pollen-gathering having begun, it will be time enough to disturb quilts for the purpose of inspecting either bees or hives.

CONFINING BEES.—The fact of our having had two inquiries recently on this subject, both from beginners in bee-keeping, makes it worth offering a word of caution against confining bees for several days together by closing entrances, except under very special circumstances. In one of the cases referred to the bees were confined to guard against "robbing"; in the other, to prevent loss of bees through their returning to the old stand after a removal of twenty yards or so in winter. Briefly, then, let us say that any necessary confinement of bees in "flying weather" should be for as short a time as possible, because excitement will cause entrances to be blocked, and the consequent suffocation of many—if not all—of the bees becomes more than probable.

PLAGIARISM IN BEE JOURNALS.—At this dull season of the bee-keeper's year—a season rendered especially dull just now because of men's minds being so fully occupied with events full of exciting and national interest and import—one has to cast about for a subject on which to write. In this way, then, we are glad of the opportunity for saying a word on the bare-faced plagiarism in the Press with regard to subjects connected with bee-keeping. In this matter the author of the "Bee-keepers' Guide Book," and the BRITISH BEE JOURNAL are such continual and constant sufferers, and the evil is becoming so common—so far as regards appropriating their contents without the slightest acknowledgement—that it is about time we made some sort of protest.

Of late years it has, we are glad to say, become the fashion with a great many newspapers and weekly periodicals to have a regular "bee column" devoted to matters interesting to bee-keepers. This feature is one regarding which we have nothing to say beyond welcoming every effort of the kind that tends to foster the good of the pursuit to which our journals are devoted. But when the presiding genius of the said "bee column" to which we are referring considers that by purchasing a copy of the "Bee-keepers' Guide Book," and sending us a subscription to the B.B.J., he purchases the right to print the contents thereof in his bee column as original matter—without even so much as an inverted comma to show that it is a quotation—we think it time to inform the gentlemen implicated that they are guilty of a breach not only of courtesy but of common decency. Whether this is done in ignorance or otherwise we need not stop to inquire, but the fact is none the less patent. There would be some excuse for offenders if the B.B.J. did not—when reprinting matter taken from our contemporaries, studiously conform to the rule followed by all respectable bee journals using the English language, of invariably giving the name of the paper from whence reprinted articles are taken. In this way, and by common consent, we print articles from American and colonial bee journals, and are only too pleased to see that American, Canadian, and Australian editors, along with ourselves, stand upon common ground as being helpful to each other. But (to come nearer home) when we find a Dublin weekly newspaper in successive issues printing whole columns from the B.B.J. and the "Guide Book" without paraphrasing or in any way altering the wording, and yet giving no clue whatever to the authorship it is time to protest against such manifest unfairness.

On the other hand we wish it to be understood that the contents of our journals are available to all who care to use them in print if properly acknowledged. To give a small instance of the way in which our information may be generally useful to the bee-industry we

may mention the item "Honey Imports." This news is helpful to all who keep bees for profit, and should be made as public as possible, but when a paper prints the paragraph referred to always *after* it has appeared in our pages, but omitting the words, "BRITISH BEE JOURNAL," the obvious conclusion is that the paper to which we refer has not been supplied with "a return furnished by the Statistical Office, H.M. Customs," but has copied it from the B.B.J.

We here offer a friendly "hint" to the offenders we have in mind, and hope it will be taken, otherwise we shall be compelled to bring the facts more directly home than we at present desire, if the causes of our just complaints are not removed.

RECIPES FOR MEAD.—For a high-class mead, suitable for modern tastes as a beverage, we do not know of a better recipe than that given in our columns some years ago by the late Mr. R. Symington, a bee-keeper of high repute at the time. It reads as follows :—

Take six gallons of water, 24 lb. of honey, that which is the thickest and darkest is the best for the purpose ; boil for half an hour, removing all scum as it rises ; add 3 oz. best hops ; boil again for fifteen minutes, strain into a cooling vessel, and when lukewarm, add six tablespoonfuls of brewer's yeast well stirred in. Allow it to work for twenty-four hours, remove the head, and put the liquor into a five-gallon barrel, into which has first been put half a bottle of best pale brandy and two lemons sliced. Leave the bung out, and allow it to work over, filling up as it decreases with the spare liquor. When the working has ceased, bung it down tightly, and bottle it in two years. Formerly it was the practice to put the brandy into the mead when bottling the latter, but it has been found that adding it in the barrel gives a much better result.

A mead (or hydromel) equally good but of an entirely different character—and much preferred on the Continent—is that of M. de Layens, given by our senior editor in his "Bee Rambles in Savoy," which appeared in the B.J. some time ago. M. de Layens' *modus operandi* reads thus :—

Dissolve 250 to 300 grammes of honey to every litre of warm water, and pour into a cask, which must be thoroughly clean. Do not fill the cask, but leave room for fermentation, which generally commences in a few days. On the bunghole simply place a tile. Reserve some of the sweetened water in bottles to fill up the cask as the liquid inside it wastes away during fermentation. The larger the quantity made at one time the more regular becomes the fermentation. M. de Layens prefers June for making hydromel, as the temperature is then right, and the fermentation is completed during the summer months ; whereas if made in the autumn the cold weather retards fermentation and has a prejudicial effect upon the hydromel. The honey is easily kept from one season to another for this purpose. The liquid ferments very well at 60 deg. to 73 deg. Fahr. During fermentation he adds about 50 grammes of tartaric acid for every 100 litres of liquid, to encourage the fermentation and give the hydromel a slight acidity, similar to that of wine. During fermentation he also adds a few drops of an essence of juniper berries. This should only be slightly perceptible to the taste, and in course of time it will unite with the flavour of the honey and will not be distinguished, but will impart an exquisite aroma to the hydromel. Of course, any other flavour can be given, but hydromel with juniper flavour is the nearest approach to Madeira wine, and has been taken for such by connoisseurs. If it is required to start the fermentation rapidly a small quantity of yeast may be used. There are frequently secondary fermentations, to prevent which and have only proper vinous fermentation, M. de Layens adds one gramme of subnitrate of bismuth to every 10 litres of liquid, which not only destroys all these secondary fermentations, but produces a better and stronger hydromel. The fermentation is allowed to proceed until it is completed, and to know when this is done M. de Layens places a cork into the bunghole having a hole in it ; into this a bent tube is inserted, the other end of which plunges into a vessel of water. As the gas is generated it passes in bubbles through the water, and when the production of these bubbles ceases it is a sign that fermentation is complete. After fermentation the cask can be placed in the cellar and a wet cloth put over the bunghole, and on this a cone of wet sand. In the event of any gas being given off, this acts as a safety-valve should imperceptible fermentation still take place. The wine is now left till the following spring, taking care to fill the cask from time to time with the liquid reserved for this purpose. In the month of March the hydromel can be racked into a fresh cask or put into bottles. The cask must be quite filled, and for this reason it is better to have it slightly smaller than the one used before. It must be well corked and left to become mature. It can be examined now and then, and every time filled up. The longer it is kept the better it becomes, and if a little caramel is put in the cask to give it a colour resembling Madeira, it would be difficult to distinguish it from this wine.

The above two recipes may be said to represent the two distinct classes of beverage known as mead, Mr. Syming-

ton's being of a character suitable to the taste of those who prefer a sweet wine, while the beverage produced from M. de Layens' recipe very closely resembles Madeira wine.

It is hardly worth while in the present day to print recipes regarding mead made from the washings of old combs from skeps, which, after being drained of their contents by squeezing, contain a fair portion of honey pollen and "the rest." The liquor obtained in this way needed little beyond the addition of certain herbs and spices to make a beverage some might like; but for a good honey-wine (as mead really ought to be), only pure honey is used, the liquor being properly fermented and "brewed" with the same care as is necessary with other wines.

It may, however, be well to say that pure honey, even if not sufficiently good for table use, will make excellent mead.

"ROYAL" SHOW PRIZE LIST.

The full list of prizes for the Royal show to be held at York in June next appears in our advertising pages this week. We regret to see the prizes somewhat reduced in value, compared with the show of 1899. But this was inevitable, as there was no prospect of another "Hat" fund being successful this year.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate refrence, Correspondents when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

A BEGINNER'S EXPERIENCE.

MY FIRST ATTEMPT AT UNITING BEES.

[3888.] As you were good enough to think that my long story about our start in bee-keeping might possess interest for beginners, I have decided to make it complete by telling how I got on with my first attempt at "uniting." Well—as stated on page 17—three weeks after our swarm was hived the bees of the parent skep were driven and put into a frame-hive. They were hived on eight frames of foundation, but somehow the bees never seemed to get on well, although they had built out three combs and partly filled them with honey in a fortnight; they then slackened off in their work, and only completed five frames of comb during the whole summer. In fact, it could only be called a "weak stock," and as such did not promise well for wintering.

My other frame-hive, on the contrary, was so strong as not to need bees uniting to it, so I cast about for some driven bees to join on to my weak lot. Not that I looked forward with much joy to the "uniting" job, not having forgotten my last "stinging" bout with the bees, and was loth to tackle them in any form. Just about that time, however, I read in the "Homes of the Honey Bee" Mr. Godwin's account (on page 374 of B.J.) of how he had made "Excelsior" his motto in "tackling all branches of bee work," so I resolved to make it mine, and, stings or no stings, to try my hand at "uniting." So, as I knew of a likely place to get some driven bees, I started off on a journey of four miles, only to find that as the skeppist bee-man had the bad luck to lose seven stocks last spring, he had none set apart for "taking up" this autumn. He told me, however, of his having driven seven skeps at a farm a mile farther on, and that the driven bees would probably still be on sale.

This extra journey rather damped my ardour, as night was coming on and every sign of a thunderstorm to boot. However, on I went, and found the farmer—a regular old-fashioned skeppist. He had strained something like 130 lb. of honey from the seven skeps, and had during the year '99 eleven swarms, the whole obtained from five hives in the spring of that year. It was, however, an ideal spot for a modern apiary, on the east side of a valley, with hills gently rising upward for two or three miles on the east and west, and surrounded with meadows and pasture fields. They had still two lots of the driven bees for sale, and I decided to take one, but they would not deliver them so late at night, so I had to leave my purchase behind. On again returning I found the bees had been fed with syrup since being driven, and they had built some nice comb in the skep, some of it being full of sealed food and the rest unsealed. The combs looked so secure that, with the nice handle at top of skep, I thought it best to carry it home without inverting the skep, as is usually done, so we covered the bottom of skep with open material laid carefully on, and away I came with the bargain of a hive of bees for the sum of two shillings! But before I had got over one mile of the five before me my arm ached so that I thought it an improvement to push a slight hedge-stake through the handle of skep and carry the latter across my shoulder. "That's better" thought I; but, soon after, the bees began to buzz so loudly that I fancied they were getting out. An examination, however, showed the cover to be quite secure, and on I went, only to still feel that all was not "in order," and so, holding

the skep up and looking beneath, I found the cover all wet and honey dripping out; further, it was certain that the combs had broken down and were lying on the inside of the covering. Here was a go! I sat down to ponder whether I should turn the skep over at once or carry a sticky trail with me all the way home. The latter seemed safest for the bees, as I judged they would have left the broken combs and be clustered in the top of skep, and if I turn the combs over on to them I shall bury the lot! so I left things as they were and trudged on.

On arriving at my journey's end, I found about 2 lb. of bees in top of skep, and amongst the broken combs were a handful of bees drowned in the honey. After removing the latter and replacing the cover, I set the skep over an earthenware pancheon—or panmug—and, owing to darkness, left it indoors till next day. The following afternoon, with the help of my brother, I reduced the frames in the weak stock to seven, of which—as already stated—five were built out, and two frames had foundation only. One of the latter was placed in centre of the others, all of which were raised one by one and the bees sprinkled over with flour before replacing. In doing this, we looked for, but could see no queen, though there were signs of some brood having been reared in the combs. We then covered all down preparatory to running in the driven bees. Rain coming on, we were delayed in this for a time, but eventually the skep was brought, the bees jerked out on to a board in front of the frame-hive, and, after spreading themselves out, they soon began to run in, rather slowly though, as it was getting dark. This prevented us seeing the queen, but the bees made no attempt to sting, even when—as we grew bolder—they were pushed along with our hands towards the hive entrance. Finally, I removed the roof and swept the remaining bees off the board into the space behind the dummy, and left them to pass under the latter into the hive. Next morning I peeped in and saw that the bees were all gathered together on the combs, and there had been no fighting. I continued feeding the united colony for some time, and after they had carried down about ten pints of thick syrup, the frames were examined, the centre one, mentioned as being filled with foundation only, was now fully built out, and nearly filled with food sealed and unsealed.

The bees seemed to have united quite peaceably, but I saw no queen cast out if there was a second one in the hive. Moreover, there has not been the slightest attempt to sting on the part of the bees ever since. In the second week of October I packed the hive down for winter, making it as snug as I could with plenty of warm packing, and before the end of that month I saw the bees carrying in pollen quite busily. This makes me sure that there is a queen with them.

Thus ended my first trial of uniting.—TOM SLEIGHT, *Chesterfield, Derbyshire.*

A PLEA FOR THE TOMTIT.

[3889.] The tomtit is a great favourite of mine; I encourage and welcome him all I can; I put up hollow limbs of trees and old water-pipes for the tits to build their nests and rear their young, and they seem to enjoy it. I have also had the pleasure of studying the tomtit and his friends for over eighteen years in my apiary, in which are set up thirty-two frame-hives in front of my workshop; moreover, I have spent very much time in trying to detect him in his supposed pilfering ways, and I find he has a good many false witnesses giving evidence against him. My grandmother used to say, "Look! there's the tomtit at the bees again; he will kill all the bees if you don't trap him." But that was all they knew in those days, and I am sorry to see people writing the same to the BEE JOURNAL now after sixty years of progress. But watch as I would, I could never catch him killing live bees; indeed, I have never seen him attempt such a thing. On the other hand, he does come down and pick up any dead bees that lie about, carrying them off to a neighbouring bough and pulling them to pieces to get the honey bag and eat it, after which he returns for more, hopping up to the same place again for his meal as before. If any reader takes the trouble to watch him, he will find, as a rule, the tit carries off from ten to fifteen bees in this way, and then flies off to his daily business, which is to hunt every fruit tree he can find for insects, which abound at that season. That is his daily labour for good, and very justly he carries it out, as I know, for I have a great number of fruit trees about me.—JOHN WHITE, *Alton, Hants, January* 16.

(*Correspondence continued on p.* 36.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Regarding our friend Mr. Barnes, whose apiary appears this week, his personal "notes" are so full and complete that they need no addition from us. He writes:—

"I belong to an old bee-keeping family, my grandfather always wintering ten or a dozen skeps; and the bees at that time were regarded as a useful adjunct to farming. Many a time have I listened with interest when my mother related to me of the old-fashioned notions about bees, and also of the big 'takes' they had, and their way of extracting the honey and wax. The first thing I can remember about bee-appliances is seeing my uncle making straw skeps, at which time my knowledge of bees was limited to a fondness for their honey and a decided objection to their stings! My first practical acquaintance with bees some years after I shall not soon forget, and may possess some interest for your readers. A friend who had just begun bee-

keeping took me to see his hives. I had with me at the time a little toy terrier, and when we reached the front of the hives the dog, finding a mouse-hole in the ground, at once started to scratch away at the soil as energetically as only a terrier can scratch, and then the 'fun' began! Hundreds of bees flew out of the hive at the dog and hundreds more attacked us, with the immediate result of men and dog taking flight with all speed and the bees after us, the poor dog's yelling being awful! I picked him up covered with bees stuck fast in his hairy coat, and, being unable to pick the angry bees out, I dropped him in the water-tub to drown them. When, after a time, I lifted him out he bolted off home as though possessed with an evil spirit, and many a long day passed by before either my dog or myself ventured near a bee-hive again.

"My first attempt at bee-keeping was in 1895, at which time I was with my brother on a farm near Ilkley, in the Aire Valley. While thus occupied, my eldest brother who had commenced bee keeping a year or two before, sent me two stocks of bees in straw skeps, and so having got the bees, I concluded that I must learn something on the methods of managing them and so, after buying a book on bees, I ordered the BEE JOURNAL, and have taken it ever since. I next made two frame-hives in readiness for swarms, and great was my delight one Sunday morning to see a big swarm clustered on a tree. The successful hiving of the swarm, according to directions given, duly followed, and the pleasure since derived from watching the bees at work in spare moments more than amply repaid me. At the close of my first season I had increased my stock to five hives, having had two swarms and a cast from the skeps, together with twenty grand sections of honey. Regarding the latter I thought I had never seen anything so fine.

"Later on in the year, and with the assistance of an old bee-keeper, I drove the bees from my two original skeps, getting five stone of honey from them and, moreover, selling it all at 1s. per lb. So my first season in bee-keeping was a paying one. Not content to let well alone, however, I bought some hives of bees from a gentleman who was leaving the neighbourhood, and, owing to my lack of experience, I did not examine the hives before buying, consequently, I had to pay rather dearly for them, seeing that one or two were queenless, and, in addition, I had to feed them all the winter. In the spring I left the farm, sending the bees over here, a distance of no less than seventy miles. It was a big task, packing them for the journey, but I managed it, so that they arrived safe. I then went to work in the town and thought my bee-keeping days were over; but, after a long holiday during swarming time, I became more enthusiastic about bees than ever, and attended all the shows,

MR. G. A. BARNES' APIARY, KINGTHORPE, PICKERING, YORKS.

lectures, and demonstrations on bee-keeping that I could get to. At the close of the season I also did some bee-driving for neighbours and helped my brother with his bees and honey. Finally I, besides, purchased several colonies as they came from the moors for myself.

"The hives seen in the photo are situated at Kingthorpe, a small hamlet about two miles from Thornton Dale, one of the prettiest villages in Yorkshire. The location is quite close to the moor; in fact, only a field's length away from it. There are a good many bee-keepers down in the village, most of whom bring their bees six or seven miles farther up the moor. The season of 1899 was the first in which we had any surplus from clover and lime, though the bee-keepers in Thornton Dale always do well from these sources. In consequence of this we are going to try if it will pay us better to keep our hives in the village. Regarding honey, I share the opinion of our Scotch friends in thinking that there is no honey equal to that from heather; in fact, I cannot eat clover honey at all. The cottage seen at the back of the picture belongs to the estate on which my brother works as gardener; but he only resides in it for a month or two in summer. He is a most enthusiastic bee-keeper, but has very little time to spare in looking after the bees. This, however, is largely made up for by his wife, who is a good hand at both 'hiving' and 'driving,' as well as preparing the honey for the market.

"My methods of management are in no way out of the ordinary. I advocate strongly hives being all of one pattern, and use shallow frames for extracted honey. The system of having hives of many different types is, I consider, a great source of irritation both to bee-keepers and bees; whilst having all hives and appliances interchangeable saves a deal of work and worry. I make all hives, frames and section-racks myself, and manage to ensure that the roofs are water-tight. I try to prevent swarming as far as possible, and believe in having none but young queens. As regards the money side of the question, there is no doubt bees pay when well looked after. A farmer's wife in the village here told me they had made £10 profit from their bees this year, and that with a lot less worry and work than with any of their other stock. She remarked there was one very good point about bees, viz., there was no 'sitting up' with them, and they always swarm in the middle of a fine day. My average yield per hive is not great, about 25 lb. per hive, and the average price is 8d. per lb. for extracted, and 9d. each for 1 lb. sections. I am commencing the new season with twenty-three stocks, reduced by doubling up from thirty-six, in good condition, fifteen at Kingthorpe and eight down in the village here. I used to go in for poultry, for pleasure, prizes, and profit, but find bee-keeping is far ahead in all three items; besides the great amount of pleasure and interest derived from the study of the busy bees on modern principles."

CORRESPONDENCE.

(*Continued from page* 34.)

MY FIRST YEAR WITH BEES.

[3890.] My first year's bee-keeping seems to have come to an end with fairly satisfactory results. I had three hives at the commencement of last season which are now increased to five, all with young queens, of which I only had one at the start. I have also secured 121 lb. of honey, 86 lb. being taken from the one hive that had a young queen. I am, of course, a little out of pocket, but that is only to be expected for a beginner in his first year when he has all his appliances to get. I am sorry to say that about the end of August there were slight signs of foul-brood in my strongest hive, but I immediately treated it as advised in "Guide Book," and less than a month later all brood in the hive was healthy; so I hope I have got rid of it. Most of my honey this year was got from sainfoin and lime, the white clover, in consequence of the drought, I suppose, being rather sparingly frequented by the bees. I have not yet been able to dispense with gloves when manipulating except for a few weeks in the middle of the honey harvest. I think my bees are more than usually ready with their stings from the way they "go for me" at times; but they are not nearly so bad as when I first took up the craft. I suppose my manipulations are quieter and less jerky. — C. D. A., *Willsbridge, Bristol.*

MORE HONEYED EXPERIENCES.

[3891.] How cruelly unkind are your remarks at the foot of my "Honeyed Experiences" (3885, p. 26), just as though my cup of bitterness was not full enough without your cutting assertion that I have not "aptitude" for bee-keeping. But when I give you the remainder of my experience, you may feel inclined to modify your views concerning me, for I value your opinions, although at present they are rather more *flattening* than flattering.

My last was in reference to one hive only, and that my first; but now I have four, and this is how I got them:—After the disasters to which I referred in my last, I made up my mind to have a good start for this year. I therefore sought out a friend who had five good stocks to drive, which operation I performed successfully; but before going it was mentioned to a lady, who innocently said, "Drive bees? Why I never heard of such a thing! How will he succeed in driving bees from Stockton to York?" But I did, and the following is the result: In hiving one lot I had to get the assistance of my wife, as it was becoming dusk, and our experience was rather lively. I got a few stings, but my wife—well, Mr. Editor, you know bees will crawl, and so they did, and my wife vows she will never help me again. But we got through all right. Now my first stock is wintering on

nine frames, all full; the swarm supplied by my expert friend has seven frames also full.

The driven bees I put into two hives, one containing six, the other five, frames of bees, which all appear to be doing well, for a fortnight since they were all flying very thickly and looked in good condition. Perhaps the foregoing will tend to raise me in your estimation, and, instead of trying to knock all the wind out of my sails, perhaps you will kindly advise me upon any point where I seem deficient, for *Nil desperandum* is the motto of —HOPE ON HOPE EVER, *York, January* 19.

[While at all times very pleased to give advice regarding bee-work, we cannot too strongly impress upon querists the need for paying close attention to details, which, though seeming trifles, contain the essence of good bee-keeping. Among these "trifles" we include being careful never to have a non-bee-keeping visitor—or indeed any one—stung by our bees, if judicious care will prevent it. By paying particular attention to this detail very rarely indeed is pain inflicted and bees and bee-keeper anathematised by sufferers. Anyway, so far as we are concerned, our correspondent need not doubt our willingness to render help whenever we can by the best advice we can give. Moreover, if he will take our words of caution in good part, and add patience and perseverance to his present motto of *nil desperandum*, we need not doubt his ultimate success as a bee-keeper.—EDS]

HONEY AS FOOD.

Read at the Bee-keepers' Convention held at Chicago, November, 1899, by Prof. E. N. Eaton, Analytical Chemist.

Honey has ever been regarded one of the good things in life. To the Hebrew fathers a land flowing with milk and honey was symbolic of peace and plenty. Thus they pictured their promised land. The ancient Greeks fed their fabled gods with nectar, even to-day generally considered synonymous with honey. Virgil wrote pastorals in its praise. The American African, always extravagant in language, can conceive of no sweeter name for his love than "My Honey." The black mamma lulls her pickaninnies to sleep with the same sweet refrain.

In English-speaking nations the newly-wedded celebrate their "honeymoon." By the way, that term has a derivation not commonly known. It was a custom of the Goths to celebrate the marriage relation by drinking diluted honey, sometimes called "hydromel," for one month, or one moon's age—hence the name "honeymoon." It was this drink, fermented, I fear, which caused the death, through suffocation, of the notorious vandal, "Attila."

In speaking of honey as food it will be necessary to name the three great classes of food material—the proteids (or nitrogenous foods), the carbo-hydrates, and the fats, both of the latter being carbonaceous foods. The nitrogenous foods are, in the main, flesh formers, while the carbo-hydrates and fats are fuel foods. Honey belongs to the sugar group, a large division of the carbo-hydrate family. All carbo-hydrates consist chemically of the elements carbon, hydrogen and oxygen, the latter two in the proportion to form water, that is, eight times as much oxygen as hydrogen.

Honey consists largely of the two sugars—dextrose and levulose—in equal molecular proportions. These sugars occur in Nature in fruits and vegetables. When coffee A sugar, or damp brown sugar, stands some time it becomes changed into these same sugars. The same change in cane-sugar is brought about by action of diluted acids, neutral salts, and ferments. These sugars, when obtained from cane or white sugar by any agency, are invariably formed in equal quantities, and when so existing are termed invert-sugar. Levulose is sweeter, and dextrose not nearly as sweet, as cane-sugar. Invert-sugar is perhaps a trifle less sweet than cane-sugar.

Cane-sugar is usually present in honey, and may exist in considerable quantity in unripened honey, or in the product obtained by feeding bees with that sugar.

Dextrin also occurs in honey in small and variable quantity. It belongs to the carbo-hydrates group, but is not a sugar. It forms an intermediate product between the sugars and the starches. Dextrin is more commonly known under the name of "British gum," and constitutes the adhesive on postage stamps. It also occurs in the crust on bread.

Formic acid is a constant component of honey. This acid is said to be the irritating agent in the sting of bees and other belligerent insects. Formic acid, like its relative, formic aldehyde, is an excellent antiseptic, but the statement that it exists in sufficient quantity in honey to act as a preservative or intestinal antiseptic, should be taken with a grain of allowance—perhaps two grains.

It will not do to leave the subject of the composition of honey without referring to the least prominent constituent from the standpoint of the scales, but the most important from the standpoint of the purse—the flavours carried from the flowers furnishing nectar. These flowers give to different honeys their individuality. They also add to its value as a delicacy. A solution of sugars without them, even in the proportion existing in honey, could no more justly be sold as honey than could a mixture of acetic acid and water be sold for cider vinegar, or a concoction of water and alcohol for wine. It, therefore, follows that invert-sugar, or any syrup obtained by artificial feeding, is not honey, and when sold as such is as much a violation of the moral law as selling "white clover glucose."

In studying the food value of honey from the standpoint of nutrition, we may disregard the flavour and minor constituents, and consider the relations of the main constituent—invert-sugar—in the upbuilding of the animal organism. In the absence of any proof we must give levulose the same value as dextrose as a food, and there seems little doubt that the two sugars follow the same course to the blood.

Sugars are not found in abundance in the body. The blood contains a little dextrose, and the muscles inosite. The liver is stored with glycogen, an isomer of starch, but unquestionably derived from sugar. The generally accepted theory of sugar digestion and assimilation is that sucrose and starch are changed into dextrose by ptyalin and pancreatic ferments. The dextrose and levulose are carried to the liver and converted into glycogen. The glycogen is held in reserve to be reconverted into dextrose to replenish the blood when depleted in that constituent. By this means the circulating sugar is kept constant in quantity.

The food value of sugar has been underestimated in the past. Children are even to-day discouraged from eating candy, which their system craves, and are usually obliged to content themselves with other cheap and inferior sweets. And this in the face of the fact that Nature has given her most emphatic approval of sugar as food by placing it in almost all animal secretions for the young. It occurs in predominant quantity in the milk of all mammalia, in human kind constituting over one-half of the entire solids, and double the amount of any other constituent.

The sugars are the most available of the heat and energy producers. Recent investigations in Germany, France, and Italy, have shown that sugar acts as an immediate invigorator when fed to persons in extreme fatigue. People at extremely hard work immediately feel the recuperating effect of a sugar diet. The Governments of Germany and the United States have added sugar to the rations of their soldiers. In this country the sugar is supplied in the shape of candy. Candies usually consist of mixtures of sucrose, dextrose, and dextrin. There can be little doubt that if honey were substituted in part for candy in the soldier's dietary, even more favourable results would be obtained, because, first, honey is in a sense a predigested sugar, and the demand on the digestive forces is lessened; second, honey consists of almost pure invert-sugar, while candies contain dextrin of unknown food value, but certainly not as immediately available as sugar; third, honey is produced by bees unskilled in the art of sophistication, and above the practice of artificially flavouring and colouring, while candy is a product of human ingenuity, and may contain unwholesome constituents; candy usually contains glucose, a product not above suspicion; honey is made in Nature's laboratory; and, fourth, honey can more easily be used as Nature intended, and as experience has proven best—that is, in connection with other foods, as upon bread or hardtack. Candies, when eaten in excess, are unwholesome and cloy upon the palate.

In favour of candy it may be said that adulteration is becoming less and less prevalent, and in the higher-priced candies deleterious adulteration is almost unknown. This is largely due to the wisely directed efforts of the National Confectioners' Association.

Again, candy has an obvious advantage over honey in ease of transportation and distribution. Candy is possibly a trifle cheaper than honey in this country, but certainly not a luxury in the Philippines.

It is an interesting fact that the consumption of no other commodity, unless it be soap, so accurately measures the civilisation of peoples as sugar, judged, of course, by our own standards. Great Britain consumes more sugar per capita than any other nation; next comes the United States, then in order follow Switzerland, Denmark, Sweden and Norway, Holland, France, Germany, Austria, Russia, Turkey, and Italy. Some allowance must be made for Sweden and Norway, whose cold climate predisposes them to the use of the more concentrated fuels—the oils and fats.

I wish to say one word, in closing, for the dignity of the bee as a manufacturer rather than a collector or common carrier. It is indeed true that the bee may invade the sanctity of more than a million flowers to produce one pound of honey, but she has not gathered honey, only the raw material, which, by working over, she manufactures into honey. She then puts it up in her unique and inimitable original package, and marks each cell with her seal.—*American Bee Journal.*

Queries and Replies.

[2327.] *Making Honey Strainers, Rapid-feeders, and Home-made Hives.*—1. Is there any form of tinned-wire gauze suitable and fine enough for straining honey, and if so, could you give me its number, or such particulars which would enable me to get it? 2. I have made some rapid-feeders for use next autumn as given in B.J. a short time ago; and I should be glad to know if any harm can happen to the bees if the part containing the syrup is painted inside. I am very glad to tell you that I have made two "W. B. C." hives from the description given in B J. of November 3 and 10, 1898, and have found the particulars extremely useful and quite adequate even for a comparative novice in carpen-

tering like myself.—C. A. Atchley, *Bristol, January* 18.

Reply.—1. The best material for honey-strainer is the brass wire-gauze used for milk strainers. Any tinsmith would tell you where to obtain it. 2. We have seen paint used for preventing leakage in wood-feeders, but prefer to have the joints well coated with beeswax run in while hot. 3. Very pleased to hear of your success in hive making from details given in B.J.

COMB FOUNDATION IN SECTIONS.

THE GREAT ADVANTAGE OF FULL SHEETS; IMPORTANCE OF ACCURATE TRIMMING OF THE SHEETS; HOW TO FASTEN.

In my experience and travels among Canadian and United States bee-keepers I have found a few differences in the general methods adopted by the two countries; and in an occasional article which I may find time to write in connection with the new work in which I am engaged I may make reference to some of these differences.

In Canada I know of no well-known comb-honey producer—one whose goods rank as the best produced in the country—who does not use full sheets of foundation in the sections. There may be seasons when the bees will fill a section with a starter as well as a section with a full sheet of foundation; but the successful bee-keeper must lay his plans and prepare his supers and equipments in such a way that the bees can get the best results under all circumstances.

I have made tests with full sheets, starters, and no foundation, in sections in the same super, and with a moderate flow the bees have completely filled all the sections with full sheets of foundation when they had not built a cell in the sections without foundation, and very little more than the foundation in the section with the starter; and from experience and observation I know that this was not an isolated case by any means. Almost any one of experience can tell by the finish of the section whether the bees had a starter or a full sheet to begin on.

I am also firmly convinced that, with full sheets of foundation in the sections, other things being equal, the bees enter the sections more readily, and are less likely to swarm without going into them. This is of immense advantage in the production of comb honey.

A great many are not careful enough in putting comb foundation in the sections. The best and most accurate machinery is none too good in doing this. Take two bee-keepers living side by side, with equally strong colonies, and in other respects on an equal footing, and a little difference in the putting-in of the comb foundation may put one so far behind in the race for a prize that he can never catch up.

The comb foundation that sags the least, and the lower edge of which the bee-keeper knows where to find after the bees have been on it for some time, is the best. With section comb foundation the matter of sagging is not so important; but the Weed process has the least tendency to sag, and I have never made any allowance for this in sections.

The comb foundation needs to be cut absolutely true and accurate. It needs to be of a width that, when suspended in the section, it just hangs clear of the sides; and at the same time, having accomplished that object, it has the least possible amount of room between the edge of the foundation and the side wood of the section; and at the bottom the distance can be a little greater, but it should not be enough to give the bees much thought as to the possibility of being able to pass through.

What is the object of this? If the foundation binds on the sides of the section it is likely to be thrown out of position, and buckle it. As long as this is not done it cannot be too close. By lying near the wood the bees readily attach the foundation; when further away they not only do not attach it as quickly, but they are likely to gnaw it away and make permanent openings for themselves, which injure the appearance of the comb.

Having seen the argument used as to the value of sections well-filled, let me say they have in this country, at least, a very practical advantage over sections not so well-filled. Of large quantities of comb honey shipped long distances, when properly packed, I have yet to receive a report of broken-down sections being well-attached and the comb well-filled to the the wood. In case of a jar or fall, the strain is not on the fragile comb between the wood, which cannot give, and the weight of the comb and honey. Next, a well-filled and even section sells more readily, and will often bring a higher price in the market. The former alone is a very decided advantage; besides, what a pleasure there is in doing a thing well, and seeing good results from it! How natural it is to follow such a success up with further efforts! This is all right and proper within bounds, and with a proper object; but if it is done with the object of being able to glory over the defeat of others, it would be better for our spiritual welfare if it had never been undertaken.

Those using only starters in sections, especially if the honey-flow is only moderate, will have sections not so well-filled and joined to the wood, and the bees will be slower in doing it. Next, it never looks well to have two kinds of cells in one section; and where a starter only is used, the bees are very likely to finish the section with drone comb.

Many will experience a difficulty in putting foundation into sections accurately. There may be better ways of doing it, but I know of no better way of doing it than with a hot-plate machine. In the one-piece section there is a difficulty in connection with putting in well-filled sheets of foundation. When the hot-plate is shoved in, and below the top-bar

of the section, the foundation then pressed up against the plate, a little of the sheet must be melted. The foundation is then brought up against the lower surface of the top-bar of the section. In this process with the sheet against the bottom of and in the centre of the bottom-bar of the section, when the hot-plate has been withdrawn and the foundation has been pressed against the top-bar of the section, it must be removed from the bottom-bar of the section a distance at least equal to the thickness of the plate and whatever was melted away from the wax-sheet. This is too much to get the best results.

The difficulty can be overcome by placing the board inside the section upon which the foundation rests at an angle, so as to carry the foundation next to the bottom-bar; beyond that bottom-bar the angling position alone gives added room; and when suspended from the top the sheet readily assumes a perpendicular position; and as it does so it nears the bottom-bar and closes the space. With a four-piece section the better way is to fasten the foundation into place before the section is put together. When all is in working order by this method, about forty-five sheets of foundation can be attached to the top-bar of the section in a minute.—R. F. HOLTERMANN, in *Gleanings.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JAS. ARTHUR (Glasgow).—*Making an Observatory Hive.*—1. A well-made observatory hive is double-glassed on both sides, the air space between the two sheets of glass on each side being ⅜ in. The distance between the inner glasses should be a little over 2 in. 2. In a single-frame observatory the comb is lowered into position from the top, both of the glasses being fixed and immovable. Where two or more frames are shown, one of the glazed sides is hinged to allow of the frames of comb and bees being hung in position. 3. An entrance 2 in. wide by ⅜ in. high is suitable. Before attempting to make an observatory hive, however, it is highly desirable that you should examine one of the modern type at some show, but, failing this, procure a dealer's catalogue of bee goods in order to see what an observatory hive is like. 4. Of Mr. Cheshire's two published books on bees the larger work is by far the best. It is in two vols., price 15s. 6d.

A BEGINNER (N. Wales).—The honey must have missed in post. Please send another sample as promised.

J. T. W. (Som.)—*Buying Bees in Winter.*—It would be a very risky thing to buy so many as six skeps of bees unless they are fairly well supplied with food. If, as you suspect, most of them are "light," we should not advise purchasing.

JAS. ALGER (Yorks).—*Feeding Bees in January.*—1. It is yet too soon to think of beginning to give syrup-food to bees. If feeding is really required at this season, a cake of freshly-made soft candy is the only suitable food, and it should be given over the feed-hole without removing quilts. 2. Are you quite certain that the food in store is already exhausted? Our own plan would be to raise a corner of the quilts, and so get a peep at the top edges of combs with very little disturbance to the bees, while showing whether or not the combs are empty.

S. G. LEIGH (Hants).—*Deferred Payment of Prize Money.*—You are right in supposing that your complaint refers to the same show as was mentioned by "A North Country Exhibitor" on page 4, but we are glad to say the matter has since been satisfactorily explained and a settlement effected. We are also expecting to hear of your own case having been attended to ere this, as the officials are, we understand, making personal efforts to meet the deficiency caused by adverse circumstances entirely beyond their control.

J. K. (Lezayre, Isle of Man).—*The "Reitsche" Foundation Press.*—1. We have had good reports from bee-keepers using this press as being quite suitable for producing home-made foundation. No doubt much depends upon the aptness of users of the press, but any one should be able to produce brood foundation quite good enough for all purposes from it. 2. The number of sheets that may be produced per hour from a "Reitsche" press depends largely upon the expertness or skill of the operator, but the seller will no doubt give an approximate number to guide you on the point.

J. D. (Aberdeen).—We are pleased to hear of your claim having been "satisfactorily settled," and in view of the further explanation received by ourselves, wherein it is shown that the officials of the show referred to have made very praiseworthy efforts to meet an unexpected deficit brought about by no fault of their own, we think it best in the general interest of all concerned to allow the matter to drop without giving any further publicity to details.

Editorial, Notices, &c.

KENT AND SUSSEX B.K.A.

ANNUAL MEETING.

The twenty-first annual meeting of the above association was held at the offices of the BRITISH BEE JOURNAL, 17, King William-street, Strand, on the 27th inst. Mr. E D. Till occupied the chair. Among the members present were Lt.-Col. C. E. Reeves, Messrs. G. T. Giddings, R. C. Powell, H. G. Morris, J. M. Hooker, E. Longhurst, W. Broughton Carr, W. L. Smith, G. Dow, M. Freeman, H. W. Brice (hon. secretary), &c. The statement of accounts and report were read and discussed. In commenting upon the latter, Mr. R C. Powell said there was one thing in the report he regretted to see, and that was an intimation that the Technical Education Committee of the Kent County Council had not made a grant to the Association towards the expense connected with expert work, as in the previous year. The speaker said he knew from experience how helpful these visits were, and this added to his disappointment. The Chairman said he also regarded this portion of the Association's work as one of the utmost importance to the bee-keeping industry in both counties. It was, he said, in consequence of the grant of 1898 not being renewed that the Association had been unable to carry out the autumn tour of inspection last year. On the other hand, the autumn tour of 1898 had been most fruitful in obtaining statistical and other information, and especially with regard to the prevalence of foul brood, which had thus been better understood and determined.

The report and balance-sheet were unanimously adopted.

The Association's experts for Kent and Sussex respectively reported that during the spring tour of 1899 502 apiaries, containing a total of 1,897 frame-hives and 303 skeps, had been visited. Of these, 1,471 hives were examined, and it was found that the percentage of diseased stocks is slightly less than in previous year, owing, no doubt, to remedial measures being adopted. The retiring officers were re-elected, as were also the Council, with Mr. E. D. Till as chairman and Mr. R. Chas. Powell as vice-chairman. The drawing for cottagers' prizes followed. A very satisfactory meeting concluded with the usual votes of thanks.—(*Communicated*)

TO OUR SUBSCRIBERS.

We invite the attention of readers to the subscription-form printed on page iii., and will be glad if intending subscribers will cut out and return the form, after filling up carefully, with full particulars of correct postal address, &c.

MARKETING HONEY

AND CREATING A DEMAND FOR IT.

Read at the Bee-keepers' Convention held at Chicago, November, 1899, by Mr. A. M. Arnd.

Marketing honey is one of the most essential parts of bee-keeping. A failure in the honey crop means loss of part of the bee-keeper's year's labour, but if he sells his product at a loss the entire year's labour is in vain.

I understand that this year's honey-production is less than one-half, but of a superior quality, and yet some bee-keepers have sold their product at the 1897 prices, when there seemed to be an over-production, times were hard, and all food could be bought at very low prices. Whereas, this year, all kinds of food products—in fact, everything—has advanced greatly, and honey should doubly have a big advance, on account of scarcity, quality, and rise in values of goods in general. And yet these very same men complain that there is no money in honey!

From my short experience I find that it is not difficult to sell high-class honey direct to the consumer at a good price, if you go at it in the right way. A man should be neatly but plainly dressed, as his appearance goes far in impressing the purchaser that he has the genuine article from his own apiary. He must be "up in his business," always willing and ready to answer the hundred and one questions that are apt to be asked. I do not know of anything that will get a person more quickly interested than the bee-subject; nearly all seem to know that the science is full of the miraculous, and are not at all backward in asking all sorts of questions, some of which would stump Dr. Miller or Mr. Doolittle to answer. If you once get people interested you will have no trouble in making sales. Do not hesitate to answer questions, even if at times you have to guess at the answer.

The public in general believes, and some of them them think they know, that an imitation comb honey is manufactured, and as I make extracted honey a speciality, I do not argue the point, but sell them the extracted with the understanding that if it is not pure and satisfactory, they can either exchange or return it at my expense. I have had only one lot returned, and that was not even opened, the lady of the house contending that her husband had no right to make the purchase without her consent—that she was the "boss," and I think she was, because the honey came back.

You must send out only superior goods. If you have an inferior article, either sell it to some of your neighbours, or to bakers, at a discount, and tell them that it is not first-class; feed it back to the bees in the fall, or put it in the vingar-barrel, but never put it on the market as fancy honey.

You must study your trade, and know

when to approach certain customers. Some you can sell to at any time of the year, whereas the indifferent honey-purchaser can only be reached successfully after a pay-day, or when the thermometer is down to zero.

If your competitor has high-class goods, always have a good word for him.

Most of my product goes to Chicago, and by a careful study of my customers, giving them just what they want, and when they want it, I am able to get very satisfactory prices.

I always sell direct to the consumer, and get all that there is in it. I sell my goods on their own merits, not on the defects of my competitors. I do not try to compete with South Water-street, or the corner grocery, but sell as independently as if I were a "trust." I do most of my business in the down-town district, as I have a large acquaintance there, and can meet them personally. I usually go to such places where I am either known, or I might know their forty-second cousin's aunt; if I am not acquainted I will tell them that I know their relative, and explain my business. I usually have a few sample bottles of honey, and some of my circulars, and place them where I think they will be most effective. If I do not then make a sale and get some encouragement, I will call again later. Politeness, appearance, and modesty do a great deal in getting a proper interview, which is one-half in getting them interested and making a new customer, who, with proper treatment, will be instrumental in getting some of his friends.

I put up my product in one-gallon and five-gallon tin cans, which I deliver by waggon-express direct to their residences. I also use one-quart and two-quart glass jars, which I deliver direct to their place of business if centrally located. A short time after shipment to a new customer, I call on him to find out if everything is satisfactory. I make it a point always to give full-size cans, and filled up to the brim; 12 lb. of honey is considered a gallon, but my customers get nearly 13 lb. You will find it pays to be liberal with your customers. Always rectify any mistakes, even if you lose at the time, for it will pay in the end, as a reputation for square dealing is worth money to any man.

To create a demand for honey at high prices you should not sell anything but first-class goods, as such invariably bring new orders. I have, as a customer, a family that has bought of me 40 dols. worth of honey within the last two years, and yet I have never seen one of them. Nothing will advertise your goods more than the goods themselves.

The public must be educated as to the uses and benefits of pure honey; there is not one person in fifty but thinks that it is only a luxury of no particular value. If we only could get the people to read and believe our circulars and honey literature, and get the newspapers to print well-written and true articles on the bee, and on honey as a food, I have no doubt that the demand would increase tenfold in a year. I believe that nearly one-half of my customers have lately been convinced that it is not only a delicious but beneficial food.

We have this problem to solve: How can we get our brother bee-keepers to sell their crop for living prices, and at what it is worth, and thus not break down the honey market? In answer, I would suggest that they invest at least 2.00 dols. per year for information—1.00 dol. for the best bee-paper, and the other dollar as dues to some good bee-keepers' association, where he could and would attend the meetings and get the much-needed information.

In these times of monopolies and trusts, when the rich are getting richer, and the poor poorer, we poor bee-keepers will find that the greatest problem for us to solve is—How can the Pure Food law be enforced effectively, and drive out of business permanently those mixers of poisons who, for mere gain, are not only robbing the public of their hard-earned money, but, more than that, are gradually undermining their constitutions and shortening their lives? If such laws could be enforced, it would greatly improve the demand for our goods, and we would have no trouble to market them at good prices. I believe that every one of us can assist in helping to crush this great wrong by joining the United States Bee-Keepers' Association, and swell its treasury to such an extent that it will enable them to fight the adulteration demons, and use their influence with Congress to put a stop to this great injustice to humanity.—*American Bee Journal.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate refrence, Correspondents when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3892.] The past week has given one or two good chances for bees to take a cleansing flight, and the hive covers bear witness to the fact that they availed themselves of the opportunity. The days perceptibly lengthen, and our stocks will soon begin to start breeding in some of the strongest colonies with young

prolific queens. The present month should be one of the let-well-alone, so far as the bee-keeper is concerned, except it is found that any stock is really in actual need, in which case a cake of candy should be given, with as little disturbance as possible. Where roofs are leaky (and the late heavy rains will tell the tale) repairs should be attended to, and the sodden wraps replaced with dry ones.

Starting Bee keeping.—The bee-keepers of to-day start in the pursuit with far brighter prospects with regard to bees and bee-keeping than did their fathers of a generation ago. I say this in view of the fact that prices are not now so good, and, in consequence, profits are smaller than they were twenty years ago ; but the new recruit starts with the accumulated knowledge of his elders in the ranks, all ready for application. The back volumes of his BEE JOURNAL will be a guide and friend to him ; in them he will find the past records of what has been done in the craft, and, what is of greater importance to him, full instructions of what to do, how and when to do it. He will also have the current bee papers, which will help him on and point the way to still greater success in the future, seeing he will therein receive the best and most practical advice from those who have been plodding away and forging ahead during the last quarter of a century. All these advantages can be had for the sum of a penny per week. Thus armed and with a good text-book carefully studied, his knowledge will be increased, and he starts in the craft with a good "send-off."

Increasing the Demand for Honey.—Every opportunity should be seized in making known the valuable properties of honey both as a wholesome food and as a useful remedy for bodily injuries. We have here two cases for which I am supplying honey. In one case (a damaged elbow) a blacksmith was screwing a nut on the underside of a waggon when the spanner slipped and his elbow struck the wheel causing injury to the bone. The man was under a medical man for two or three weeks when, as the arm was still getting worse, his doctor thought it best for him to go to the hospital and undergo a surgical operation, which included scraping the bone of the arm. The hospital being full and the man having to wait his turn in consequence, he was induced, on my recommendation, to try honey poultices, which in about ten days so far healed the arm that the doctor does not now consider it necessary for him to go to the hospital at all. The other, a very bad case of a gathered thumb caused by a thorn. In this instance the sufferer received more benefit from honey poultices than from any other remedy. I mention these facts as connected with usefulness of honey, and if we could get the medical profession to advocate the use of honey either as food or otherwise we should soon have the demand equal to the supply. It seems that according to your correspondence there is still a large quantity of honey on hand, let us hope that with London full again, trade will look up and that we shall have a good demand, so that we may clear our stock before the new honey is ready for the market.

The Solar Wax Extractor.—What is the opinion of bee-keepers who have used this appliance during the past season? Was the refuse or residue left in the vessel burnt up or has others like myself put it on one side to see if all the wax is out? I hope to give my practical opinion shortly when I have put it through the test, will others do likewise?—W. WOODLEY, *Beedon, Newbury.*

PREPARING BEESWAX FOR SALE.

MOULDING "MARKETABLE CAKES."

[3893.] For casting wax into 4-oz. blocks I use a tin mould exactly 12 in. square and 1⅝ in. deep (fig. 1). This will hold 6 lb. at a time. The sides must be quite perpendicular,

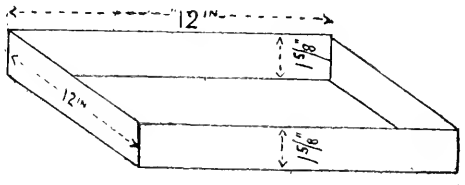


Fig. 1.

or the blocks will not be true. To divide the mould into twenty-four equal parts I have five strips of tin 12 in. by 1⅝ in., with a notch cut out half way through the strip exactly at 3, 6, and 9 in. from the end (fig. 2) ; and

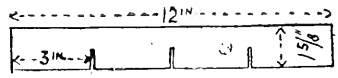


Fig. 2.

three strips the same size as the above, but with the notches cut at 2, 4, 6, 8, and 10 in. (fig. 3). These strips, if cut correctly, will fit together, and will divide the mould into ¼-lb. sizes. For my own use I have a 3-lb. mould, with divisions for 2-oz. blocks ; but the above mould can be used for this size by having the

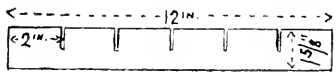


Fig. 3.

notches in the five strips cut 1½ in. apart instead of 3 in., and by having seven strips instead of three, with the notches cut every 2 in. You then have a mould that will give any size from 2 oz. upwards.

When casting, the mould should stand on a dead level, and must be filled with the liquid

wax to within ⅛ in. of the top. Raise the crossed slips slightly from the bottom of the mould when pouring in the wax; this will facilitate the filling of the respective divisions. When full press down the strips and place a board with a heavy weight on the top, to prevent the mould from buckling. When the wax is quite cold, say, after twelve hours, the blocks will come out quite easily by turning the mould upside down. The raised edges round the *top* of each block should be cut off with a sharp knife, and your wax is ready for marketing. It is as well to test the weight of the blocks at first, as they must be 1½ in. thick to be full weight. If they are found too heavy they may easily be reduced, but it should be borne in mind that the wax will lose a little in weight by keeping, and as the retailer cannot sell *nominal* weight without risk of a fine, he ought to be supplied with full weight by the bee-keeper. I got 1s. 8d. per lb. for my wax, in 2 and 4 oz. sizes, selling a dozen pounds together. Even more than that might be got by some of the craft, I doubt not; but as mine was not of first-class colour I was very well satisfied.—W. H., *Brilley, Herefordshire, January* 24.

[Bearing in mind the suitability of wax-cakes shaped as described above for the retail counter trade, and the preference of shop-keepers for plain cakes with no ornamental patterns upon them, which only serve to gather dust, the simple and effective appliance devised by our correspondent will no doubt be largely availed of by all who prepare wax-cakes for market. Anyway, it will fill a want that has been long felt by bee-keepers, on whose behalf we thank our revd. correspondent for his useful contribution to our pages.—EDS.]

TOMTITS AND BEES:

"GUILTY OR NOT GUILTY?"

[3894.] Each winter as the years roll by Mr. Tom...e is brought up and charged with a lot of mischief and murder in the apiary, and for a long time I have wondered if it was entirely imaginary, or if those who accuse the tomtit had really seen him carry off live bees. Your correspondent, Mr. John White (3889, page 34), has nothing but good feeling towards the "tit" and has never caught him killing live bees. I can fully bear out all he says as regards Tommy's innocence in this respect, for, during a sixteen years' experience of bee-keeping, I have often watched him carrying off bees, but never yet one live one has he taken to my knowledge. Some of our old bee-keepers I know seem to have a lot of trouble *trapping* tits. I believe our old friend, John Walton, baits his traps with "a bit of suet;" perhaps he has something to say about the tomtit, and I would ask our friend to tell us if he ever *saw* him taking live bees? (If this should prove "a bait" to bring a letter in the JOURNAL from friend John, so much the better). Until I catch Mr. Tommy actually killing bees, or have some reliable evidence that he does so, I shall hold him "not guilty." With good wishes for editors and readers.—HY. NEVE, *Heathfield, Sussex, January* 29.

(*Correspondence continued on page* 46.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Balmbra, whose apiary is pictured on next page, combines honey-production with the manufacture of bee-appliances, and in this way is able to afford desirable information regarding the way in which a practical hive-maker overcomes the known difficulties of taking bees safely to the moors. His experience is therefore both interesting and useful to the general reader, and we are glad to print below his account of the method followed, which needs no addition on our part:—

"The photo sent was taken just after the bees had been brought home from the moors and placed in the position seen preparatory to being covered with roofing felt. This rests close on the tops of the hives and reaches to the ground at the back—leaving the fronts of the hives open—and is kept in place by stout cords attached at the back to pegs driven into the ground and held taut by bricks and stones hanging over the front. During the winter months the hives are, therefore, practically the same as if under the cover of a shed. They are left like this from September to the end of March, and receive no attention beyond seeing that entrances are kept clear of dead bees. As the season opens the hives are, of course, spread wider apart. In each hive a space of one and a half inches is provided above the frames for the bees to cluster in, and as a 'glass quilt' is used on every hive, I can see at a glance if the bees are likely to run short of food. In the winter of '98-9 my whole stock, thirty-seven in all—counting double hives as two colonies—came through without a single loss. I always count double-queened hives as two when comparing notes with rival bee-keepers and put them in as one when paying for standing room at the moors.

"As will be seen from the photo, I, along with others, fell a victim to the 'Wells' hive craze when first introduced six or seven years ago. I am only prevented from smashing them up for firewood simply because I cannot afford to destroy them. If possible I like the hives less the longer I keep them. For obvious reasons the larger quadruple hive seen on the extreme right has never been to the moors yet. It has been suggested that it might be fixed on pneumatics and drawn along with a team of mules, preferably of a 'non-stampeding' sort.

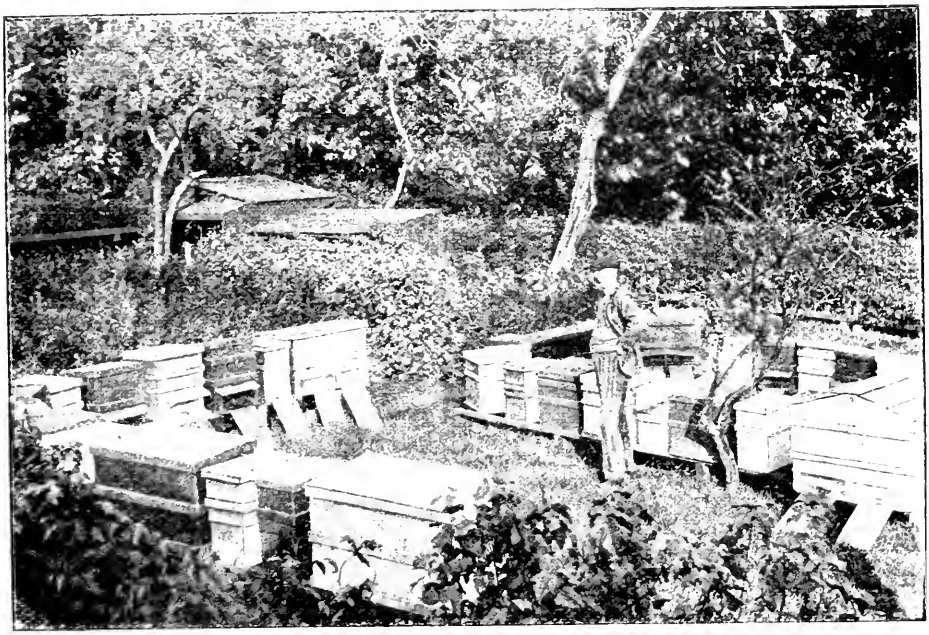
"Perhaps my favourite hives are the smallest

ones seen on various stands in the photo, not that I consider them best for practical bee-work, as undoubtedly the ten-frame hive is the most suitable for all-round purposes, but these small hives are associated with my happiest recollections.

"They each hold either six or seven frames respectively, besides an unlimited number of sections. They are used for putting swarms into, and then being carried on a bicycle to suitable places in the neighbourhood, where bees are not already kept, and where leave can had to locate them; generally in a quiet corner in a garden or orchard. In this way I had over twenty swarms of 1899 scattered about the country last summer. It is a good way for bringing swarms on, and much reduces overcrowding in the apiary at home. The swarms referred to are taken away at all hours of the day, but about 4 a.m. or 5 a.m. is best time, when one is least likely to give casual acquaintances met on the road the opportunity of making disparaging remarks about the general appearance of your equipment. Another development I might mention in connection with these small hives:—As all moor men know, a very large proportion of the finest heather honey is lost to the bee-keeper by being stored by bees in the frames of brood nests, instead of being carried up into the sections. This fact led me on to make experiments, the result of which (though it is impossible to prevent some of the honey gathered at the heather being stored below) is that I have been able to prevent frames being clogged with the valuable product of the heather, and securing a corresponding increase in high-quality sections. As to how it is done, this is not quite the proper place to say. Neither is it an appropriate place for giving full details of a method which, without being fully perfect, has taken several years to work out. I may, however, say that it does not take the form of feeding with sugar syrup.

"The demand here is entirely for heather honey, and it therefore pays us to utilise the clover honey gathered in the production of young bees and drawn-out sections; thus encouraging the bees to increase during summer, and then contracting to the original number of colonies before going to the moors. In this way last summer my colonies numbered sixty-five or seventy, and were then reduced in the last week in July, by uniting, to forty. In this way I secure the greatest number of bees in the least number of hives, which means saving in cartage and 'standage,' besides trouble in 'moving.'

"Most of the hives have roofs sloping from front to back, but all the small ones are flat-roofed; all, however, excepting 'Jumbo' on the right), are covered with zinc and thus perfectly waterproof. Projecting roofs and hives on legs have been done away with as in the way when packing for conveyance to the moors. The shallow lids of roofs—not the 'lifts'—are fitted



MR. J. M. BALMBRA'S APIARY, ALNWICK, NORTHUMBERLAND.

with butt-hinges, and when travelling on sultry nights ample ventilation can be given if needed by raising the lids a few inches and allowing a draught of cold air to pass over the tops of sections—previously covered with perforated zinc—and through the body of hive by way of the entrance. In some cases to avoid risk of suffocation with very strong colonies I have removed all packing from above frames, allowing the bees full liberty to range inside of lifts and roof. I then 'bike' over to the moor a day or two afterwards to put sections on, when the bees have had time to settle down. It is a heartbreaking sight after arrival at the heather to find your best stocks (it is always the best that suffer) ruined; combs smashed, bees drowned and suffocated, and the whole a shapeless mass of bees, brood, and honey, and all for lack of care and precaution in the way of proper ventilation, not forgetting wired frames and sections fully drawn out. Sections partly built out, and containing honey when packed for the journey, are a great source of danger; but whether built out or not, all honey in sections should be extracted before starting. I have gone through it all, and know exactly how it feels when what has been looked forward to as a sort of picnic is marred by such an occurrence as I have described, when you do not know which pinches most, regret for the pecuniary loss or pity for the poor bees.

"But I am perhaps occupying too much space, and will therefore only add that there is not much to say about the individual who occupies the most prominent position in the picture trying to 'strike an attitude;' there is still less to put on record in regard to his public appointments or his wife, seeing that he neither holds the one nor possesses the other."

CORRESPONDENCE.

(*Continued from page* 44.)

NOTES FROM WYCHWOOD FOREST.

[3895.] The article from *Gleanings* in B.B.J., page 28, is a timely one on the employment of the long evenings profitably in acquiring knowledge by reading useful literature pertaining to bee-keeping.

Judging from the questions our Editors have to answer in these pages, I consider the best thing for some would-be bee-keepers in this country would surely be to carefully read some good guide-book on the management of bees. If this were done, a great many of the questions would never be asked, and our Editors' time and patience would be spared, to say nothing of the fact that more space would be left for useful matters of general interest to bee-keepers.

It seems to me that in bee-keeping, as in other things, knowledge, industry, and patience are very necessary requirements if any measure of success is to be achieved.

Knowledge serves to show us *what* to do, *when* to do it, and *how* to do it; Industry impels a man to lay aside indolence in all its forms, and steadily labour till his work is done; and Patience makes us willing to wait and try again if first attempts do not seem to be successful in reaching what is aimed at.

The following lines may help to fix the lesson:—

One page won't put you in "the know,"
You've got to keep on learning;
One pound won't fill your purse, that's true,
You've got to keep on earning.

One hive won't take you very far,
You've got to keep 'em going;
One stock won't do for good and all,
You'd better keep them growing.

One glance a year won't do, my boy,
You've got to keep on prying;
"Bees failed last year;" well, never mind,
You'd better keep on trying.

—J. KIBBLE, *Charlbury, January* 27.

A BEGINNER'S EXPERIENCE.

FROM THE FINANCIAL STANDPOINT.

[3896.] Reverting to my letter in your issue of the 11th inst. (3876, page 14), and before giving (at your request, Mr. Editor) my balance-sheet for last season, I ought to say that I charge my bee account strictly with all expenses belonging to it, down to postages, while all produce is accounted for, honey used at home being charged at the rate of 6d. per lb. to housekeeping expenses. The account stands thus:—

EXPENSES.

	£	s.	d.
By Tins, bottles, &c.	3	10	3
,, Honey-press and wax-mould ...	3	19	9
,, Bee literature and B.K.Assoc.	0	13	4
,, Foundation and frames ...	1	6	9
,, Wood, &c., for hives	0	9	2
,, Sugar, &c, for feeding ...	0	7	8
,, Carriage, postages, &c. ...	1	3	3
	£11	10	2

RECEIPTS.

	£	s.	d.
To Honey and wax sold	21	5	0
,, Honey and wax in stock (minimum value	4	5	2
	£25	10	2
Deduct expenses	11	10	2
Net profit	£14	0	0

Having to buy a heather honey-press—I decided to have a good one—considerably reduced my profit this year, but I am now well equipped with every kind of really needful apparatus, so that I hope to show better figures in the future if the seasons continue good. However, as I am only a beginner yet, I feel I have no cause to complain, and much cause for thankfulness. What is your opinion, Mr. Editor?—W. H., *Brilley, Herefordshire, January* 24.

[We quite agree here.—EDS.]

Queries and Replies.

[2328.] *Beginning Bee-keeping—Choice of Hives.*—Having for the last year or two paid especial attention to poultry, and finding that they pay very well indeed, I intend also to take up bee-keeping next season. I have read Cowan's "Guide Book" and also some instructions given by various firms in their catalogues, but as yet I cannot quite make up my mind what kind of hive to purchase. I have decided to get most of my goods from a well-known manufacturer, who in his catalogue strongly recommends the "Wells" hive. 1. Will you, therefore, please give me, through the medium of the BEE JOURNAL, your opinion of the hive? It is my intention, when I have acquired experience, of going in largely for apiculture. The outlay for the "Wells" hive seems large when contrasted with other hives, but I can see the advantages which it possesses. My father being a farmer, I have a good position for hives, &c., although there is no heather in this neighbourhood. I find that poultry, with attention and management, pays very well, and, indeed, now we are making weekly, by the selling of eggs alone, a sum of money which would astonish a good many people. I shall try to keep bees in the same way. 2. I have been trying lately to secure a contract for the disposal of eggs and fat fowls, but as yet have not been able to make a satisfactory one. You would greatly oblige me if at any time you could put me in correspondence with any person who is open for a regular supply of guaranteed fresh eggs, &c. In apologising for my long letter, I should like to say how much I like the BEE JOURNAL, as it is always full of hints, &c., suitable for beginners.—HUGH J. SAUNDERS, *Herts., January* 26.

REPLY.—1. Whatever may be the merits of the hive specially alluded to, we regard it as quite unsuitable for an entire novice in bee-keeping to make a start with. In fact, while the manufacturer you refer to eulogises the "Wells" hive in his catalogue, it is not mentioned therein as adapted for beginners. In view of your laying out the nucleus of a large apiary, we advise, as a beginning, the purchase of a couple of hives, simple in construction and very moderate in price, together with one of better type. When some experience has been gained it will be time enough to decide (1) whether your location is good enough to make honey-producing pay, and (2) the style of hive you find best for the methods of management adopted after working among bees for a time. To put the matter in a nutshell, we always recommend beginners in bee-keeping to bear in mind the useful adage, "Make haste slowly." To do so is one of the means of ensuring success, while it lessens disappointment in cases where failure follows. 2. Beyond saying that "fresh-laid eggs" are at present exceedingly scarce among the dairymen who usually supply them, we cannot render help in the direction desired.

[2329.] *Confining Bees in Winter.*—I am a novice with bees, and, when packing my hives down for winter, I took the advice of a large bee-keeper in the district and left the entrance wide open. About a fortnight ago, it being a very fine day, there were a lot of bees out flying, and, on going to look at them, I found the ground for about two yards round the hive almost black with dead bees. It seemed that as soon as they got outside the bees dropped down with the cold wind, and as others were all the time coming out, I promptly closed the entrance slides; in a few minutes they were all laid helpless on the ground. I then gathered the bees up and warmed them, when they returned to the hives. If this had happened when I had been away, all those restored-to-life bees would have been lost, and another loss of the same kind would have ruined the lot. Since then I have kept the entrance slides closed, and certainly do not intend to open them again in a hurry. Are there any reasons why I should open the slides before warmer weather comes, which in this district we may not expect before April? If I am doing wrong I should be glad of any advice on subject, only I do not wish to have a balance-sheet like that of your correspondent "Hope On," who writes in B.J. of January 18 (p. 26). He would at least have the better of me as having some bees left, while I should have none.—C. S. D., *Leeds, January* 27.

REPLY.—Whatever may have caused the bees to leave the hive only to fall helpless upon the ground we cannot say from the few particulars furnished above, but it was not attributable to the doorway being left "wide open," unless the bright sunshine warmed the hive interior, and thus tempted the bees out. The entrance should be re-opened without delay and shaded from the sun if needed.

[2330.] *Tranferring to Frame-Hives.*—I am at present a straw skeppist and have four stocks of bees in skeps, which are now fairly strong. This year I wish to adopt bar-frame hives, and so I ask—1. When ought I to "transfer" the bees? 2. Do you think it would be better for me to "unite" and so make two strong colonies of the four skeps, destroying the elder queen of the two lots united, while "driving"?—THAPIN, *Cranbrook, January* 28.

REPLY.—We repeat the advice so often given in this column, by strongly urging that the bees be allowed to transfer themselves without any "driving" or patching old combs into frames for transferring to new hives at all. Should this course be approved of, proceed as follows: If the bees in skeps are in any degree short of food when they begin foraging for pollen (this will probably be in a few

weeks hence with you in Kent), prepare a few pounds of soft candy—well made—and thrust a good sized ball of this (say a 1-lb. weight) into feel-hole at top of each skep. Cover with a piece of American cloth, well secured all round by wire nails pushed into skep, and a warm cushion above to retain the warmth inside of skep. Repeat the feeding as candy needs renewing. Stimulate breeding in this way till the skeps are strong in bees; meantime, prepare the frame-hive by fitting each frame with full-sheets of comb foundation, and set the prepared hives close to the respective skeps containing the bees to be transferred into them. When the skeps are seen to be well filled with bees, procure a square of American cloth (large enough to cover the top-bars of frame-hive) and cut a hole about four inches square in centre. Lay this cloth—glazed side down—on top of frames, and after giving a puff or two of smoke in at entrance, lift the skep bodily on to the cloth. This done, pack the space not covered by the skep warmly, to keep the lower hive as snug and cosy as possible in order to entice the bees into it; replace roof, raised sufficiently high to cover the skep by means of the usual "lifts" and the job is done.

A few weeks later, when the bees are seen to be working from the lower hive with increased vigour, it may be safely assumed that they have taken possession, and have transferred the brood-nest to the frames below. The skep may then be raised, and, if the assumption be verified, a queen-excluder is set over frames and the skep replaced to be filled with surplus honey or removed after all brood has hatched out.

THE HIVE QUESTION.

LARGE HIVES FOR EXTRACTED HONEY.

Some time ago the best size of brood-chamber was discussed very thoroughly in *Gleanings* and other bee-papers, so the matter will seem stale to many readers; nevertheless, I hope it will be interesting to have a summing-up and a more scientific explanation of it, which I will try to give.

We know the bee is three days in the egg form, five days open brood, thirteen days capped brood, two days it is not able to work, sixteen days does housework, and about sixteen days field work. If the number of eggs laid daily remains the same, we can figure how many young bees are in the hive, if we know how many eggs are laid daily. In this case the colony will remain the same—that is, as strong or as weak as before. An increase of the population is possible only when the number of eggs laid by the queen is increasing; and if this number is diminishing the colony will become weaker. This is important, because if the population of a colony would remain the same, it would in most cases, during the time when no honey can be gathered, consume what it had stored during the honey-flow.

In fact, a good colony increases the population from early spring up to the honey harvest, then the colony is getting weaker. In the fall, if some honey can be gathered, a new short increase of the brood can be observed; and in winter breeding is stopped entirely.

If it is our aim to have as many bees as possible for the harvest, and as few consumers as possible when no honey is coming in, it is only one way to attain it in a given colony; and that is, to increase the number of eggs laid daily by the queen up to the honey flow, and to the greatest extent. Now it is said, "Why overwork this queen? Two queens would easily lay the same number of eggs." Well, suppose we have two colonies in spring quite alike, covering eight L. frames. One of them is in a large and the other in a small hive. In my locality the bees have generally commenced brood-rearing on February 1 in all my hives. The honey-flow commences at the end of May. For this it is desirable that the queen should reach her highest egg-laying capacity about May 1. Consequently we have for the development of the colony eighty-two days—that is, four breeding periods of twenty-one days each. If the queen commences egg-laying with 200 eggs daily, and doubles this number in twenty-one days, we have 400 eggs February 21; 800 March 14; 1,600 April 5, and 3,200 April 26. For the honey harvest we have, then, 108,000 bees in this hive.

Now, suppose we have the same colony in a hive so small that the queen is cramped as soon as she lays 1,600 eggs a day, because she does not find more empty cells, or for any other reason cannot lay more eggs. It is plain that from this time on the population of the colony cannot increase any more, and we shall have 54,000 bees for the harvest; consequently the colony can gather only half as much honey as the other one.

Here comes in another point which is of less importance. We have reached the highest population in the large hive May 17, when the honey-harvest commences. In the small hive, from April 26, the colony will remain the same; consequently the largest possible population is reached at a time when it was not necessary. In these twenty-one days 43,600 eggs are laid, and just as many bees die and are raised without any profit for the colony; they are consumers just as well as the bees raised after the honey-flow. Nature has a remedy for this, but this belongs to another chapter.

During the honey-flow the brood in both colonies is restricted; in the large hive, where we have an overworked queen, probably more so than in the small one. This is a desired condition for the honey crop, because comparatively less brood is to be nursed, and a part of the young bees can build combs and store honey; but it may be undesirable for

comb-honey production, and we will speak of this afterward.

When the honey-flow ceases, the colony in the large hive will not be stronger than that in the small hive; and this equality will remain till the end of the spring development. The consumption is theoretically the same in both colonies in fall, winter, and early spring; but during the last twenty-one days of development one colony kept up the same strength, while the other one doubled its population.

If, in fact, the development of the brood does not occur in this restive way, and if many other influences change the outcome, this will not change the value of the proof. I think I have explained the reasons for the advantages of large hives and prolific queens.

The locality has some influence in this matter. If the main honey-flow is very early, the colony may have no time to develop to such a degree that the queen can lay to her fullest capacity. In this case stimulative feeding in the fall is recommended, to have very strong colonies in early spring. By that not much seems to be gained by strong colonies and large hives, if we do not admit that strong colonies consume less, comparatively, in winter, sometimes even absolutely less than a weaker colony.

If the main honey-flow is very late, it is probable that the queen, long before, has reached her highest egg-laying capacity, and the colony may be even weaker when the honey-flow commences, than it was some time before.

As long as the queen increases the number of eggs laid daily, the number of young bees is increasing also. If suddenly the egg-laying remains stationary, or is diminishing, the number of young bees will still increase during the next twenty-one days; consequently, we shall have a surplus of young bees compared with the open brood, and this causes the swarming impulse. To explain this scientifically would take too much space here. This swarming impulse appears as soon as the queen reaches her highest egg-laying capacity, be this caused by crowding her in a small brood-chamber or by the limit of her fertility. This is the reason why small hives swarm more and earlier than large ones.

With a late honey-flow and small hives the colonies will swarm before the honey-flow commences, and now every swarm and every old colony undergoes a new progressive development. This explains why under some circumstances the swarm and old colony will give more surplus honey than a colony undivided. A locality with very late honey-flow requires quite a different hive and management from a locality having an early honey-flow.

The problem is always to keep the colonies in a progressive development till the main honey-flow commences, and at this time we shall attain the most strength. The more population we gain in this time the better for the honey crop. During the honey-flow it is necessary to have as little open brood in the hive as possible for two reasons: Bees raised from this brood are of no use for this season; and, second, if bees have less brood to nurse, more bees can engage in other work.

SMALL HIVES FOR COMB-HONEY.

Most comb-honey producers say the eight-frame hive has given them more surplus honey than a larger one by their management and in their locality. This seems to be in contradiction to our researches in the foregoing, and needs an explanation.

With the beginning of the honey-flow we set the section-supers on top of our hives; and the main difficulty now is to force the bees into the sections and to induce them to commence work in them. If we cannot do this, at least some days of the best honey-flow are lost—maybe the entire crop. For this purpose the brood-chamber must be in a certain condition:—

1. No empty cells should be in the brood-chamber, because they would be filled with honey; and if the bees have started to carry honey into the brood-nest they become accustomed to it and refuse to go into the sections (Doolittle).

2. If possible the brood-chamber should contain brood exclusively; especially the frames should be filled as near to the top-bar as possible. This needs no explanation.

A large brood-chamber can hardly be in this desired condition. In a very good honey-flow the bees will work in the sections nevertheless; but generally they do not. Dadant recommends two methods for getting a large brood-chamber in proper condition:—

1. From early spring, empty combs are given to the colony; by and by, as soon as more room is needed for the brood, the brood-chamber is always contracted to the space the queen can occupy.

2. At the beginning of the honey-flow the brood-chamber is contracted to as many frames as are needed for brood.

Both methods did not work satisfactorily with me. The first one is, in fact, the same as recommended by Doolittle. If we want the frames full of brood, the queen must be always crowded. I cannot see how Dadant can get more brood than Doolittle by the same management, if the brood-chamber is in proper condition. In fact, in this case he will have a large hive, but will not avail himself of its advantages.

The second method has the disadvantage that the brood-combs are not in proper condition. Every comb may contain empty cells, brood and honey on top, which combs we always select for the contracted brood-chamber. This will not be the desired condition.

Both methods have the disadvantage that some of the sections are over the dummies

and not over brood. If the colony has really developed in the large brood-chamber to its fullest extent, the queen will be overworked and will probably not lay so many eggs; as yet some cells will be free for storing honey in them. This state is favourable for the amount of honey stored, but the brood-chamber is unfit for the production of comb honey. This I have mentioned already.

With so-called double-deckers a very large brood-chamber is used at the right time. When the honey-harvest commences, only one story is used; that is, the brood-nest is contracted, and thus we have the advantage that the top surface remains the same; but I think we shall hardly find the brood-combs in the right condition to force the bees into the sections.

With a small brood-chamber the queen has never before used her full powers, and is always eager to lay in every empty cell; consequently the brood-chamber will probably be in the desired condition. Because in a large hive the bee-keeper cannot get this desired condition, he sacrifices the full development of the colony and the advantages of it. This reduces the honey crop to a smaller extent than a brood-chamber in a wrong condition.

It is well known that in the production of comb-honey we have the least trouble, if we use swarms, if they come out at just the right time—that is, at the beginning of the main honey crop. If a colony swarms before this time, neither swarm nor the old colony will be in proper condition for comb-honey production when the main honey-flow commences. How a swarm is used if it issues during the honey-flow is known as Hutchinson's method. Hereby, too, we need small brood-chambers; first, to start the bees of the parent colony into the supers; and, second, to get the swarms at the right time, because large hives would not swarm at all or else too late. By this method the swarm is hived in a contracted brood-chamber; but this has no bearing on our question, because we see the advantages of large hives in the season before the honey-flow.

If a large hive in spring means more surplus extracted honey, and for any reason we cannot use this advantage for comb-honey, it is a proof that our management is not advanced enough to overcome this difficulty; our problem must be to find out a method by which all advantages are utilised.

I produce mostly extracted honey. Only a few hives are worked for section honey; but for two years I have used a method in accordance with the above theory which I think is worth consideration. In 1898 I got from one hive, managed after this method, 120 filled sections and a number of partially filled ones, while my average crop of extracted honey from the whole apiary was less than 100 lb. per colony. I will describe this method in my next article.—**L.** STACHELHAUSEN in *Gleanings* (American).

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

K. G. (Vicarage, Essex).—*Finding a Market for Honey.* — No task would be more pleasing to us than that of naming a market for the surplus honey of all our readers. Unfortunately, however, it is beyond our power to do more in this line than render help when we happen to have heard of such. Besides, it should not be forgotten that honey stands in the same position as such other articles of agricultural produce as butter, eggs, poultry, garden-stuff, and rural produce generally, for which a market has to be found by the producer. That this can be done in the great majority of cases is fairly well demonstrated by the reports constantly appearing in our pages.

J. YARWOOD (Sale Moor).—*Source of Honey.* —It is probable the honey is from "charlock," but there is also an admixture of some other kind which we do not understand. Have you any limes in the neighbourhood to account for the "minty" flavour in sample sent?

J. PHILIP.—1. *Ripe Honey.*—Honey is ripe when sealed over. Flavour is not a criterion. As to ripeness, unripe honey is thin, and will ferment very soon after removal from hive; especially in warm weather. 2. *Time for Driving from Skeps.*—If you mean for the purpose of removing the honey, as soon after the cessation of the honey-flow in your district as possible.

"C."—1. *Queen Joining Swarm.*—The queen does not lead the swarm, as supposed by many inexperienced bee-keepers, but joins it when on the wing; the swarm commences to settle, and then the queen settles with them. In your case she evidently was one of the last to do so. 2. *Queen-cells and Drone Hatching from same.*—The large number of queen-cells is very unusual, if your bees are English. A queen (?) cell with drone inside is always abnormally formed; not only as to its surface, but also as to its position on the comb. We have opened numberless such cells, the drone being invariably dead. You should tell us how long it was from the time you cut out the cell until the drone hatched out.

J. T. F. (Cheshire).—*Honey Districts.*—There are several good localities for bee-keeping in Cheshire within easy distance of Liverpool.

Editorial, Notices, &c.

MARRIAGE OF MR. A. H. COWAN.

We have just received from our senior editor the pleasing news that his eldest son, Mr. A. H. Cowan—who has a fruit farm in California, growing oranges and peaches on a large scale—was married on the 9th ult. at All Saints' Church, Loomis, Placer Co., California, to Mary Owen, eldest daughter of Major G. H. Turner, and grand-daughter of J. J. Turner, Esq., of Penthreheylin Hall, Montgomeryshire. For the benefit of Mr. Cowan's Australian friends we may also add that the lady is a grand-daughter on the maternal side of the Hon. S. Tomkinson, M.L.C., of Adelaide, South Australia.

The many readers of this journal who, along with ourselves, have known Mr. Alec H. Cowan personally, only to esteem him very highly, will assuredly join us in congratulating the young people on what bids fair to be a very happy future for them. If the well-known augury counts for anything, this should be certain, for we learn that the wedding day was one of brilliant sunshine, coming between two of the wet and gloomy days so rarely seen in that region of almost perpetual summer.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Friday, February 2, Mr. E. D. Till occupying the chair. There were also present the Hon. and Rev. Henry Bligh, Messrs. H. W. Brice, J. M. Hooker, W. Broughton Carr, J. H. New, E. Walker, and the secretary. Letters explaining enforced absence were received from Messrs. R. T. Andrews, W. H. Harris, H. Jonas, F. B. White, and C. N. White.

The minutes of the previous meeting were read and confirmed.

Mr. Arthur Pears, South View, St. Helen's, Isle of Wight, was duly elected to membership.

Mr. New, on behalf of the Finance Committee, reported that the receipts for January had been examined and compared with the payments to bankers, the amount standing to the credit of the Association on January 31 being £36 10s. 5d. The Committee recommended payment of several small accounts, and the report was adopted.

The Education Committee reported that the examiners' awards in connection with the late examination for second-class expert certificates would shortly be ready, and the secretary was instructed to act upon the report, when made known.

Mr. Hooker, by request of the Council, kindly supplied a number of specimens of coloured glass, from which a selection was made as "Standard Tints for Light, Medium, and Dark-coloured Extracted Honey, at future Shows" (where provision is made for the three classes). The secretary was authorised to take steps to get the glass specimens carefully matched in coloured gelatine for distribution in the way previously decided.

The following resolution of the Devon B.K.A. was brought forward for consideration, viz.: "That this (annual) meeting of the Devon B.K.A. wishes to draw the attention of the British B.K.A. to the statement in their 'aims' as to establishing a market for honey, and to state that this meeting is of opinion that the Council of the British B.K.A. should take steps to carry out this object." A member of the Council stated that the resolution was carried as an amendment to a proposition, moved by Mr. J. W. Jacomb-Hood, advocating a severance from the B.B.K.A. The secretary was asked to read the original motion, but replied that, unfortunately, he had not been favoured with a copy. A lengthy discussion ensued, and it was eventually resolved that the secretary be instructed to say that the Council would welcome a detailed practicable or workable scheme for the furtherance of the object named. It was, however, obvious that the newly-formed Devon B.K.A. was but imperfectly acquainted with the efforts which had already been made by the Central Association to promote the "aim" referred to.

The annual general meeting was fixed for Thursday, March 15, to be followed by a conversazione, as usual.

DEVON BEE-KEEPERS' ASSOCIATION:

ANNUAL MEETING.

The second annual meeting of the Devon B.K.A. was held at the Guildhall, Exeter, on Friday, January 26, Col. Walker (President), in the chair. The following members were present: Messrs. A. W. Barker, T. H. Burgess, T. Brender, J. M. Cann, W. H. Catford, Mark Farrant, jun. (Hon. Treasurer), A. Godsland, J. Hookway, J. W. Jacomb-Hood, W. B. Jones, F. Pike, T. Pitt, J. Seldon, H. Tolson (Hon. Secretary), F. P. Smith, Edwin Wide, Herbert Wide, F. E. Williams, Col. E. M. Woodcock.

The report having been taken as read; the hon. treasurer presented his report, which showed a debit balance of £2 2s. 7d. There would have been a substantial sum to credit had it not been decided by the Council to show as a debt the sum of £8 5s. 4d., which the present Devon B.K.A. took over as a legacy from its predecessor.

The chairman, in moving the adoption of report and accounts, congratulated his fellow-members on the greatly improved position of the Association, and on the large amount of educational and practical work which it had been able to carry out during the past year. In his opinion the Council had acted wisely in making good again the legacy of £8 5s. 4d.

that the Devon B.K.A. had been so lucky as to inherit. Useful as the ready money had been when the Association was struggling into existence, it would now be most advantageous as a reserve fund. He left the report to speak for itself, but would take this opportunity to express the special gratitude of the Council to those members who, while not themselves ardent bee-keepers, had generously assisted by their subscriptions.

The adoption of report and accounts was carried unanimously.

The retiring president, hon. treasurer, and hon. secretary were re-elected unanimously; as were also the Council as it stood, with the addition of Mr. Cann.

Mr. Jacomb-Hood then moved the following resolution, of which he had given notice:—"That in view of the failure of the British Bee-Keepers' Association to take direct steps for securing the better and more certain disposal of British honey, it is not desirable for the Devon Bee-Keepers' Association to devote sums of money that can be ill-afforded to the payment of an affiliation fee; that Rule No. 13 be rescinded accordingly, and that the substance of this resolution be communicated to the Council of the British Bee-Keepers' Association."

In the course of a lengthy speech the proposer of the resolution argued that the parent association, while devoting much energy to educational purposes, had failed to do anything towards assisting its affiliated associations towards obtaining commercial success, and that unless this could be done he thought they would be better without the association.

With regard to the way in which help might be rendered he did not pretend to furnish it with a scheme, but he considered that a good deal might be done by sending travellers about the country to secure the sale of British honey which should be collected, graded, and stored in central depôts. There was no reason, he thought, why the English market should not be worked and supplied by the British Bee-Keepers' Association as carefully as foreign honey was by private hands. In conclusion, the speaker said: "If the parent association was not prepared to take a commanding position in this matter, he could see no reason for supporting it."

Mr. Barker, while explaining that he was not quite in accord with the motion, seconded it, if only for the purpose of discussion. Several members, however, spoke on the resolution, *pro* and *con*. Mr. Farrant (Hon. Treasurer) moved the following amendment:—

"That this meeting of the Devon Bee-Keepers' Association wishes to draw the attention of the British Bee-Keepers' Association to its published statement of its aims as to establishing a market for honey, and to state that the meeting is of opinion that the Council of the B.B.K.A. should take steps to carry out this object."

Mr. Tolson (Hon. Sec.) seconded the amendment. He considered that with the necessary effort such a demand for British honey would be created that it would successfully compete with foreign honey in the English markets.

Mr. Jacomb-Hood stated that he did not wish to press his original motion, and was quite content with the amendment.

The Chairman expressed his pleasure that the motion had been carefully, and, as he thought, very sensibly discussed. He himself did not approve of the original resolution. It seemed like taking one's parent by the throat, and saying, "Pay me what thou owest!" Nor did he favour the idea of separation. The B.B.K.A. had admittedly done excellent work, and it did not seem unreasonable to call upon it to turn its attention now to what was apparently part of its original programme; but the only hope of success lay in the hearty co-operation of all the county associations.

The amendment was then put as a substantive resolution, and carried unanimously.

With an acknowledgment of the mayor's courtesy in allowing the use of the Guildhall, and a cordial vote of thanks to the chairman, the meeting separated.

HANDLING BEES.

A correspondent—very earnest, evidently, and zealous—after a year's experience of bee-keeping, is so desirous of having fuller or more explicit directions for handling bees that he asks us to add something to what may be gathered from guide-books. We have already written for these pages all we know on this matter, but it will bear repeating as follows:—

In the whole range of the practice of apiculture there is no one feature of such paramount importance in attaining success as that of knowing how to handle bees properly and judiciously and well. Indeed, to the man who is by temperament and habit hasty, jerky, and rough in his method of doing things—who bangs about him in "Now then, hurry up" style—we emphatically say, *Don't keep bees*. Such a one will never make a successful bee-keeper, but will only go from bad to worse in his "haudling" if he makes the attempt, and assuredly end in giving up in disappointment and disgust. It is most curious to note the varying feelings with which different men regard bees; we have seen a military officer—a model soldier in physique, and, as we were told, plucky enough to face anything in the shape of man or beast—so curiously afraid of the stings of bees that he could not be induced to look on at the opening of a hive, though offered a bee-veil and gloves for protection. Again, we have seen a big farm labourer, about 6 ft. high, running away along the road for a couple of hundred yards because he fancied a bee was after him. In these cases an innate fear of bees would very

properly deter either man from attempting to become a bee-keeper.

Then there is a class of unpromising candidates for success in the pursuit who possess no natural aptitude at all for it, and who should never attempt to engage in it. One of these well accounted for his failure when he remarked to us: "My bees were awfully savage the other day; but Jack was as good as his master, and I gave it them *hot!*" And very hot indeed had he given it them, for on lifting the quilts the number of dead bees we saw lying with their crushed bodies flattened on the top bars fully attested the warmth of his "handling."

On the other hand, any man or woman possessed of an ordinary amount of gentleness, patience, and firmness, and having no actual *distaste* for the work, may become skilful in handling bees, as well as a successful bee-keeper, by intelligently applying the knowledge which is nowadays within the reach of all. Courage, in the ordinary sense of the word, is not needed, only just that small amount of nerve which will save the operator from starting, as if shot, or dropping the frame he happens to be holding, should a misguided bee chance to sting him. Some men are more successful than others in handling bees, because of their natural aptitude and liking for the work; but almost any one may, by experience and practice, gain sufficient control over their bees and themselves to remove the unpleasantness and annoyance which, in nineteen cases out of twenty, is caused either by want of knowledge or by mismanagement.

It is just as necessary that the bee-keeper should know when to leave the bees alone as it is to do the right thing at the right time; and he who persists in carrying through operations at the wrong time, and while the bees determinedly resent it, not only acts unwisely, but lays the foundation of further trouble. Gentle handling at all times, and judicious waiting for another chance to carry out operations if the bees are disposed to be vicious, will have a remarkable effect in preserving the bee-master's control of the apiary, and in maintaining that order therein which is so necessary for comfort and for success.

Quieting Bees. — Without an efficient means of quieting or controlling the vast army of little workers under his charge the bee-keeper's occupation would be gone, or at least it would become impossible so far as management by modern methods is understood. And so, for the purpose of subduing bees and rendering them amenable to control, one of two agents is used, as preferred, viz., smoke from burning or smouldering rags, &c., or the fumes of carbolic acid; the latter being administered in several forms, while the former is universally applied by means of the "bee-smoker," an implement too well known to need description here.

But for the fact that carbolic acid, as used for quieting bees, is so useful in another direction, viz., as a disinfectant and preventive against disease, we should advise the using of no other implement than the ordinary smoker and smouldering rag for manipulating purposes, for in spite of all that is urged in favour of the fumes of carbolic acid or of creosote, we must confess to an all-round preference for a good smoker and a bit of dry fustian. Bearing in mind, however, the favour with which some regard the use of carbolic acid, and appreciating its value as a disinfectant, we give particulars of three distinct methods of using it for bee-purposes, as advocated by the late Rev. George Raynor, Mr. W. B. Webster, and Mr. John H. Howard respectively. Mr. Raynor for more than twenty years dispensed with smoke and smokers, using instead a solution composed as follows:—

1½ oz. Calvert's No. 5 carbolic acid,
1½ oz. glycerine,
1 quart of warm water.

The acid and glycerine to be well mixed before adding the water, and the bottle to be well shaken before using.

Formerly Mr. Raynor applied a stronger solution by means of a feather, first round the entrance and over the alighting-board of hive, then to the tops of the frames, smearing each top bar as the quilts were removed. In later years, however, he seemed to prefer his second plan of using the "carbolised cloth," which was simply a piece of open cheese-cloth 17 in. wide, and long enough, when it had tacked on to it at each end a light wooden roller, to hang over the hive sides when stretched across the whole of the frame tops. This cloth, when in use, was kept moist with the acid solution, and, when manipulating, the quilts were quickly stripped off and replaced by the cloth before the bees had time to fly. They would immediately retreat below, and then the operator gently rolled back the cloth, uncovering as many frames as desired on one side, then covering up again and beginning on the opposite side in the same way. Considering that so reliable an authority as Mr. Raynor chiefly attributed his immunity from foul brood for more than forty years to the constant use of carbolic acid in this way, its advantages are worth considering. Great care, however, is required in using it, not only on account of its highly poisonous character, but from the painful effect it has on the skin if the solution is made too strong, or without glycerine, besides the objectionable odour it conveys to honey if used carelessly. The quiet style of handling bees and the orderly care so characteristic of Mr. Raynor were admirably adapted for the successful use of carbolic acid about bees and honey. His carbolised sheet, neatly rolled up in a piece of American cloth, glazed side in, was always ready for use and never objectionable; nor was his honey ever "redolent of carbolic," as often is that of some

who use that useful but not savoury-smelling antiseptic too freely in the apiary.

Next we have the carbolic fumigator of Mr. Webster, who describes it as follows:—"This is a zinc cylinder mounted upon, and in direct communication with, a bellows. At one end of this cylinder is an inverted cone, from the lowest part of which a nozzle protrudes; covering over the hole at the back of this nozzle is a shield, to prevent anything but air or vapour being blown through; the other end of this cylinder has a cover, the inside of which is furnished with four hooks holding a piece of sponge. The sponge is saturated with carbolic acid, creosote, and water. At the back of this sponge a piece of carbonate (the common hard or crystal form) of ammonia is placed; when so prepared the fumigator is ready for use, and will last, according to the amount of work, for weeks or months, without any further trouble.

The fumigator is used exactly in the same manner as an ordinary smoker, and those desirous of trying the carbolic fumigation method may, according to Mr. Cheshire, improvise a good substitute for the orthodox implement by forming a roll of the corrugated brown paper used for packing purposes, saturating this in the solution, and inserting it in an ordinary smoker.

Next we have the "carbolised spray," first used by Mr. Howard to quieten bees. This consists of one part (not more) of Calvert's No. 5 acid to ten parts of rather hot water, the solution to be shaken till the brown, oily globules disappear, and the acid is thoroughly merged in the water. It is used warm, and before spraying the bees the bottle is again well shaken. A strong atomiser, like those used by hairdressers, is best for the purpose when spraying; the nozzle should not be pointed *at* the bees, but directed so that the solution will fall on them in a fine spray as the quilt is turned back. Sometimes a second application is needed to subdue a strong stock, but the bees generally retreat from the spray just as they do from smoke. Judiciously applied—and only in spring and autumn work—this spraying with carbolic acid must be of great value if foul brood is about, seeing that in application it disinfects hives, bees, implements, clothing, and everything it comes in contact with. There is, of course, always the danger of a careless person making the solution too strong, or so drenching the bees with it as to half kill them; otherwise the carbolised spray has much to recommend it, especially when disease is being fought with, but as a bee-quieter it is obviously more suitable for the use of experienced bee-keepers than for the ordinary amateur.

Beyond those enumerated above, there are several other quieting agents used for protecting the hands when handling bees, notably Grimshaw's "apifuge," Holliday's "carboline," &c., which have the excellent effect of giving that confidence so helpful to the timid beginner.

PROTECTION FROM STINGS.—We cannot entirely agree with the oft-repeated assertion that "bees will never volunteer an attack," nor sting "except in self-defence." Neither is it quite correct to say that "after a little practice and experience no protection is required;" indeed, it will usually be found that in apiaries of any extent, where the bees are "natives," and possessing the "grit" and the healthy vigour requisite to make good returns possible, there is not that complete immunity from the risk of an occasional sting which some would have us believe. As a matter of fact, in all our acquaintance with successful bee-men, we never yet found one who hadn't a veil somewhere in the house, and who did not wear it at one time or another. Personally, we almost invariably have our veil on when working among bees, not pulled down over the face, but ready on the hat for instant use on an emergency. It lessens the risk to have it so, and a sting in the eye is at no time agreeable.

(Conclusion next week.)

HOMES OF THE HONEY BEE.

APIARIES OF OUR READERS.

It is at all times pleasant to be able to show what an artisan of the right stamp is able to do in his leisure hours as a bee-keeper, and our friend Mr. Gregory adds to the pleasure in proving that it is possible for bees, properly managed, to do well within daily travelling distance of the B.B.J. office. We trust that working men similarly situated will profit by a perusal of what follows in the "text" sent at our request to go along with a view of the neat little apiary which appears on next page, and to which we need to add nothing:—

"I am by trade a journeyman carpenter, and my bee-garden is situated by the side of the cottage in which I live at West Finchley, about seven or eight miles distant from the BRITISH BEE JOURNAL office.

"The viaduct seen in the background is that of the Great Northern Railway branch line from Church End to Edgware. I pitched my tent about eight years ago in this picturesque spot, and, although knowing very little about bees at that time, I was interested in them, and resolved to try my hand at bee-keeping. With this end in view I made a start in 1892 with a small "cast" and a mixed lot of driven bees. It has occurred to me often since that I must have attended to the bees rather too well for their welfare, in the way of opening the hive and taking out the frames in mid-winter, when snow was on the ground, to see if the bees were getting on all right and wanted for nothing. But, in spite of this meddling, the poor bees managed to survive until the following spring, when dysentery set in and finished them off, for they all died.

"Thanks, however, to the BEE JOURNAL and Cowan's 'Guide Book,' these little

blunders have now been overcome, and at the present time I am regarded by neighbouring bee-keepers as an 'expert.' I possess no 'certificate,' however, though I hope to secure one some day. Nothing daunted by my first failure, I started again in the spring of the following year with a stock of bees bought in Surrey. I was greatly disappointed with my purchase when it arrived, as the bees were in a terribly neglected state, and what was to have been a 'new Sandringham' turned out to be a worn-out old hive, with a couple of ants' nests built in the space between the hive and outer case, which was filled with hay so tightly packed that I could not clear it away without breaking up the outer shell of the hive. Not 'country' as they call it, and to them the sight of the bee-hives (which are only 20 ft. from the road) and one of Mr. Rose's 'honey for sale' tablets in the window soon effect a sale.

"My apiary is now composed of nine stocks, increased by artificial swarming and purchase. The bee-forage is mostly white clover, limes, and wild spring flowers. We have very little fruit blossom about. The ground, being clayey, is cold in winter, hence the strong-looking hives seen in photo. The straw hat in the picture covers the head of your scribe, and the other venerable-looking party with the smoker represents his son, aged eight, the eldest of six; not a very aged bee-man, you

MR. F. GREGORY'S APIARY, DOLLIS BROOK, CHURCH END, FINCHLEY.

to be daunted (and after a hard day's work in town), I set to work the same evening, and made a body-box on the 'W.B.C.' principle, according to the particulars given in the 'Guide Book.' Next evening I made an outer case on the 'Cowan' principle, and with these cases most of my hives are covered.

"I then transferred the stock to the new hive, and was rewarded that season with 72 lb. of the finest honey, all in sections, the whole of which I had sold by the end of August at a shilling each. I have had no trouble to dispose of my sections at this price, and the same for nominal 1-lb. jars.

A great many holiday folks and others come this way from town for a half-day in the will say, but he can boast truthfully of having hived his first swarm and taken a 5-lb. bell-glass of honey off same this last autumn. So what a child can do, a grown-up person ought to be able to manage.

"I often hear the question asked, 'Do bees pay?' and can answer, yes, if properly looked after; at least, mine do, and pay well, although I am so near the great metropolis. After paying all expenses connected with them I generally manage in the worst of seasons to buy the family a suit of clothes all round, likewise pay for a visit to the 'Dairy Show' in October, which we should not have if it were not for the bees' industry.

"I conclude my 'few lines of text' you

asked for by wishing the BRITISH BEE JOURNAL success in 1900, and a greater circulation, that it may be able to enlighten others in the craft of bee-keeping."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NEWS FROM SOUTH AFRICA.

BEES INSIDE LADYSMITH.

[3897.] I am afraid I am somewhat late in sending my subscription to the B.B.J., but we have been in such a state of turmoil that bee-matters, like all others, have had to give place to war affairs; however, I now enclose P.O.O., which is better late than never.

You may, perhaps, like to know that an apiary in which I am interested (having assisted in its transfer from boxes to frame-hives) is unfortunately now inside Ladysmith, and right within the zone of fire! I fancy this must be an almost unprecedented position for a bar-frame hive, and I expect it will be a curious spectacle when the relief column gets in.

This year has been very unfavourable for bee-keeping in South Africa, owing to drought, although some very good sections were exhibited at some shows. They came from further inland, where the honey is always better than here on the coast. The series of pictures of apiaries given in your pages during the year have been very interesting, but, with not many exceptions, there is an absence of the picturesque which one expects in connection with rural pursuits in England. I suppose this is almost unavoidable, and it is unfortunate that people will always say, "What a lot of kennels!" as it makes explanations necessary.

This is a good place for the solar wax extractor, which I have worked now all through the year; in fact, it does best in winter, when the maximum temperature in the sun is only 120 deg.

Ants are one of the chief nuisances we have. There is the white ant that eats the woodwork of the hives, a small brown one that goes for the honey, and a somewhat larger black one that carries up its eggs into the sections and on the top of the frames, but fortunately they do not live harmoniously together, so when "black" wants a comfortable dwelling, "brown" has to clear out after a pitched battle.

There is also a formidable black ant, about the size of the common house-fly, that comes in an army, and then a battle royal takes place, the slaughter on both sides being tremendous, and the fight lasting for a day or two, but the ants have a great advantage at night, and eventually win and carry off honey, brood, and bees, entirely destroying the stock.

Hoping you will have a successful year.—A. C. SEWELL, *Durban, Natal, January* 12.

[Though not specially written for publication, we gladly avail ourselves of the fact that our correspondent's letter is not private, and print the above bit of bee-news from the spot to which all eyes are now turned. We would also be very pleased to hear how the bees in Ladysmith have fared during the "bombardment." If the apiary referred to has fortunately escaped damage from shot and shell, how great must be the contrast between the peaceful labour of the bees and the present terrible work of men going on around them! Let us hope the season's honey has not been "commandeered."—EDS.]

WHAT A SWARM CAN DO.

LARGE SURPLUS FROM A SMALL LOT OF BEES.

[3898.] During the period of excessive heat which prevailed in the early days of June last a swarm of bees weighing 4 lb. was despatched from Coventry on the 7th of that month and *the box* reached me on the 9th. Owing to the torrid heat, they were smothered *en route*, barely 13 oz. of bees left alive—or rather half alive—but amongst these was the queen. I hived them on three frames, giving whole sheets of foundation, and fed steadily for a fortnight. At the end of the first week I gave them two frames of sealed brood. Some time later I gave them other two frames with full sheets of foundation, and well on in August another, making eight in all. I would have been perfectly satisfied if they had wrought up into a good stock ready for next season. Up to the end of July I never thought of supering, but on the 29th they looked so well that I put on a rack of sections. On the 31st I saw some bees up, and on August 14 sections were all but finished, so I put on a second rack below the first. On the 24th I took off rack No. 1 with twenty-one beautiful sections completed. The second was so well on that I gave them a third *above*, with the result that I took off the second twenty-one on September 16, and the third rack had nine finished, six well on and six not started. My pound of bees had thus given me fifty-one well-finished sections (and they were all beauties) with eight frames well filled, all this being accomplished from June 9 to September 16. This I think, everything considered, my most successful venture with bees. In my own opinion it beats the record take recorded in issue of November 2.—D. M. M., *Banffshire, N.B., February* 1.

SELLING HONEY.

[3899.] The shady practices of sundry disreputable individuals, of which a reverend gentleman and others rightly complain in recent issues of the BEE JOURNAL, should tend to suggest the desirability of those who have honey to dispose of being particularly careful to require "cash with order," or at least before delivery, if the would-be customer is unknown to them, or has failed to supply a satisfactory proof in one way or other of his bona fides.

Another growing evil I have noticed of late is the application for *one-pound samples* of honey in sections, or in bottles, or both, and for which *no payment was ever intended to be made.*

That this dishonest system prevails I will cite you an instance from my own knowledge, and you will observe that the parties concerned only failed to score owing to the manner in which I decided to treat their request. On November 14 last I received a postcard with printed heading (herewith enclosed) from a firm in London, styling themselves "general caterers," asking me to "Please forward samples and lowest prices of your honey." I replied to this by quoting my price on rail, and informed them that, as the honey in question had lately been awarded first prize in the open class at more than one important show in the Midlands, I could guarantee the quality, which they could depend upon being "first-class." In answer to this I received the following reply (also enclosed), dated November 23, 1899:—"Dear Sir,—Please send us samples of the honey in jars, also in sections, and oblige.—Yours truly, ..."

This requisition I answered as follows:—"Dear Sirs,—As I have not hitherto had the pleasure of doing business with you, I shall be greatly obliged if you will kindly give me the customary reference, viz., the address of your banker. I shall then be pleased to send you a sample 1-lb. section and 1-lb. bottle immediately, or, if you prefer to pay cash in this case, and will remit 1s. 6d., I will put the honey samples on rail per passenger train at once. Although it is not usual for the *seller* to do so, I shall be most happy to furnish you with a banker's reference, if desired. Awaiting the favour of an early reply, yours faithfully, J. E. RODEN." I have waited more than two months, and, of course, I have not heard further from the firm. They have not even had the courtesy to acknowledge my last communication, and the only inference to be drawn from this correspondence is the fact that it was an attempt to acquire certain goods without rendering an equivalent or paying for the same. One can, therefore, readily understand that this sort of thing, multiplied many times, must result in a profitable, but very far removed from honourable, business. The moral that I would wish to impress upon those who have honey, &c., to dispose of is simply this: Before parting with your property, be sure of the bona fides of the person you are dealing with.—J. EDMUND RODEN, *Quatford, near Bridgnorth, Shropshire, February* 1.

TOMTITS AND BEES.

[3900.] As friend Neve has suggested on page 44 that I give my opinion on the tomtit as bee-killer, I give it for what it is worth.

I do not think I have ever actually seen tomtits, or "blackatops," as they are called here (these birds are larger than tomtits, and have a black head) catch live bees, but I have seen them fly to the entrances of the hives and then off into an apple tree close by, where they pick out the sting of the bee before eating him, with the exception of some of the outside hull, or shell. The bird then again returns to the hives for more, and as this has been carried on early in the winter season—either late in October or early in November—when there is scarcely a chance of dead bees lying on the entrance boards, it looks very much like as though Mr. Tomtit and his bigger relative did actually catch and carry off the live bees. I am led to say this, more particularly because there happened to be a hive just under the apple tree I have mentioned, and the roof of the said hive was covered with hundreds of the pulled stings and remains, &c., of bees, which they had carried off and dropped on to the top of the hive. Both kinds of the birds began the game again this last autumn, and my youngest son, who happened to be among the bees at the time, saw them at their nefarious practices and trapped several.

This incident (in my opinion, at least) constitutes a clear case of circumstantial evidence of Mr. Tomtit's guilt, seeing that if dead bees are good for Mr. Tom, why not the live ones? Do we not on every hand see animals, &c., preying on one another, killing and eating their prey? While I actually have seen the tit fly up into the tree, very dexterously extract the sting, eat the bee, and drop the shell, &c., on the hive below. In conclusion, let me say I have often had small blocks of wood placed in entrances that were too large, and I have found the tomtits lug these blocks out to make the entrance larger, so that they could the more easily catch an inquisitive bee who had left the cluster to see what was the matter. Wishing all bee-keepers a happy and prosperous New Year.—JOHN WALTON, *Honey Cott, Weston, Leamington, February* 2.

WORCESTER B.K.A.

[3901.] Will you kindly allow me through the medium of your columns to ask what has become of the Worcestershire Bee-keepers' Association? I have been unable to trace it since the "Jubilee year." If it has become

non-existent, it cannot be from lack of interest in bee-keeping in the county. Some have suggested to me that the County Council now do its work, and therefore it is unnecessary. This argument I fail to appreciate. Nothing can to my ideas be of so much general help as those gatherings of old at the annual meetings, the annual show, &c. Personally, I regret it very much, and (enclosing address card) beg to sign myself. — "A LONELY ONE," *Kidderminster, January* 15.

[On inquiry we find that the Worcester B.K.A. was last year removed from the list of those affiliated to the British Bee-keepers' Association owing to non-payment of the affiliation fee and the fact of no reply being received to communications sent to the hon. sec. on the subject. We are given to understand that one result of this was that a member of the W.B.K.A. had perforce to be charged the double fee for show entries last year.

We should be very pleased to receive any satisfactory explanation that may be forthcoming with regard to the above for publication from those most concerned.—EDS.]

MAKING OBSERVATORY HIVE.

[3902.] Your querist James Arthur, in B.B.J. of January 25 (page 40), would no doubt be glad to learn that full instructions (with drawings) for making an observatory hive appear in *Work* for Saturday, January 27 last, published by Cassell & Co.—G. F., *Kenilworth.*

SELLING PRICE OF HEATHER HONEY.

A HINT.

[3903.] I notice heather-honey advertised in the B.B.J. at about the same price as clover-honey. I—for a special reason—bought a jar containing about half a pound at a London store and paid 8d. for it; other honey being 11d. per pound jar. A friend after tasting pronounced it inferior to my Yorkshire heather-honey; it was put up by a well-known Scotch house and possibly largely extracted from brood-combs. Heather-honey should fetch more; it costs most bee-keepers more to produce, and no foreign heather-honey comes into competition; those who sell at the price of clover are defrauding themselves and injuring the trade of others. A Scotch lady told me in her native place it cost about 1s. 2d. to buy. *Verbum sap.*—ALPHA, *Hull.*

BOMBUS TERRESTRIS.

[3904.] I have often wondered where the various species of wild bee hybernate. I have repeatedly watched nests of these insects during autumn, but invariably found them deserted later in the season. In packing up some hives of bees for a friend in the early days of October I came on a nice collection of *Bombus terrestris.* One of the bar-frames had a fancy top, which, like many ornate articles, was of the gimcrack order, for it had opened at the apex, so that a finger could be thrust through. The ornamental was made more picturesque by an old milk-basin, weighted with stones, added as a cap to keep out moisture. The quilt was filled with heaps of our burly friend the humble bee of the above order, dead, dying, and moribund. No means of access to the lucid sweets were discernible. We counted well up to 100 and then left off, leaving a goodly heap unnumbered. Would any of these have survived to the spring? What took them there? Perhaps Mr. Sladen can expound the riddle.—D. M. M., *Banffshire, N.B., February* 1.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

JANUARY, 1900.

Rainfall, 3·77 in.	Sunless Days, 11.
Heaviest fall, ·93 in., on 6th.	Below average, 16·8 hours.
Rain fell on 21 days.	Mean Maximum, 42·4°.
Above average, 1·35in.	Mean Minimum, 32·4°.
Maximum Temperature, 50°, on 24th.	Mean Temperature, 37·4°.
Minimum Temperature, 23°, on 6th.	Above average, 1·4°.
Minimum on Grass, 20°, on 6th.	Maximum Barometer, 30·55°, on 25th.
Frosty Nights, 17.	Minimum Barometer, 29·16°, on 3rd.
Sunshine, 53·7 hrs.	
Brightest Day, 18th, 7·5 hours.	

L. B. BIRKETT.

Queries and Replies.

[2331] *Starting Bee-keeping — Management of Swarms.*—I purpose (D.V.) to procure a swarm of bees to start bee-keeping about May next. I already possess a frame-hive made to take twelve frames, and wish to know (1) how many of the frames should be given to the swarm when first hived, and when the others should be added? The frames will be fitted with comb foundation, and I intend weighing the swarm before hiving. 2. I am also getting one of the well-known "Perfection" feeders, with which, doubtless, you are acquainted. Please tell me about what number of holes I should set the index to, and how long the swarm will be likely to require feeding? Or, would you advise me to get the rapid feeder in preference? 3. I have been told that at that time of year bees do not need feeding at all, but it seems to me a good thing to keep them at home working on the combs for a little time instead of foraging

abroad in the fields. Am I right in this? However, as I know nothing whatever about bees, except reading the "Guide Book" and some numbers of the B.B.J., to which I now subscribe, you will overlook what to you must seem the elementary nature of my questions, but these minor points are so very puzzling to a beginner.—W. J. M., *Newcastle, co. Down, January* 30.

P.S.—It is early to make these enquiries, but I like to be in time.

REPLY.—1. If the swarm weighs between 3 lb. or 4 lb. insert seven frames when hiving (presupposing full sheets of foundation are used), and cover top bars with a single quilt until the following morning. Then raise the quilt, and note how many frames the cluster of bees occupy; remove all unoccupied ones. 2. Arrange the full number of quilts, and set above all the "feeder" with the index at five holes open. The swarm need not be fed for more than three or four days if weather is fine and honey coming in. If, however, weather is cold and adverse, feeding may continue until the bees can obtain food in the fields. The rapid feeder is not suitable for use with newly-hived swarms. 3. It not seldom happens that honey-gathering is quite at a standstill at end of May, and that in consequence newly-hived swarms have starved for want at that season. On the other hand, if the weather be favourable and honey is fairly plentiful, the artificial feeding of swarms is entirely unnecessary—indeed, it is worse than useless at times.

[2332.] *Slow Granulation of Honey.*—Will you please tell me if the honey, of which I enclose a sample, will ever granulate? It was gathered in July, and "run" about three months ago; having been kept in the comb in a warm room, it was too stiff for the extractor. Since being "run" from the comb it has been kept in a cellar. I must thank you for encouraging me in bee-keeping by telling me some three or four years ago that my honey was of very good quality; subsequent shows have verified your words. As a bee-keeper, I consider my chances of success would not have been worth much if it were not for the B.B.J., as I started with "Pettigrew's" book, which gained my confidence at the time, and threw me back instead of forward. One way and another, I made a clear profit of £26 (including prizes won) last year out of seven hives—spring count.—H. F. BEALE, *Andover, Jan.* 30.

REPLY.—The honey referred to will undoubtedly granulate in time, but for how long it will remain liquid much depends upon the temperature at which it is kept. The reasons for early and late granulation are most difficult to define beyond saying that much depends upon the atmospheric conditions under which the honey was gathered. The particular source from whence the nectar is obtained is certainly an important factor in the case, some honies (notably that from mustard) becoming solid in a brief time after removal from the hive, but we have had personal experience of honey gathered in the same locality—and no doubt from the same sources—remaining liquid for five or six months in some seasons, and in others becoming solid in one quarter of the time.

WHAT MAKES A GENUINE BEE-KEEPER.

As the labours of the year 1899 have drawn to a close, and the long winter evenings of the first of the year 1900 are upon us, I thought that I might be excused in saying a few words on what I consider the duties of the apiarist along the line of spending those evenings in such a way that we may be gaining in knowledge regarding the pursuit we have chosen in life.

Having once chosen a pursuit, it becomes us to look after that pursuit with all diligence. In no business engagement is this more imperative than when the culture of the honey-bee is to be the occupation; and in no way can this be done to better advantage than in reading the bee literature of the day. How often have I tried to get certain persons who were about to embark in bee-keeping by way of purchasing a few colonies of bees, to take a bee paper, or to send for a good book on bees, only to be met with certain excuses which went to show that the person addressed would not make a success with bees.

A man or woman who is not willing to put a few dollars into the bee reading of to-day shows *by that very thing* that he or she will not make a success of it; for had they the right kind of love for the busy bee they would devour all the reading on the subject which came in their way as eagerly as a hungry man eats a good dinner. It is just this hungering and thirsting after knowledge regarding the practical part of bee-keeping that insures success; and unless a person does so hunger and thirst after knowledge along some special line of the many industries of the world, he or she will never make a success at anything, except, perhaps, it may be their working by the day or month, serving some one else. It is *only* the person who *loves* a calling in life who succeeds by and through such calling.

One of the reasons why there are so many "calamity howlers" in the world to-day is because there are so many who are more interested in loafing around and listening to idle gossip than they are in their chosen pursuit in life, and take more interest in a game of cards, or hanging around the saloon or country store, than they do in studying on something which will lift them up morally and financially, or make them of real, practical use.

Besides the *American Bee Journal*, take all the other bee papers you possibly can; and, first, and before any of these, be sure to procure at least one good book on bees. Why I say procure the book, or books, *first*, is, because no

man or woman is ready to understand bee papers until they are in a certain measure acquainted with the first or elementary principles of our pursuit. There is scarcely a week passes in which I do not receive lists of questions which I know would never have been asked had the writers a good book on bees, and had they read that book understandingly. From these books and papers the mind is stored with useful knowledge, which can be put in practical use as soon as the active bee season of 1900 opens.

When I first thought of bee-keeping I procured the "Bee-Keepers' Text-Book," by King, and Quinby's "Mysteries of Bee-Keeping." As soon as I had read these I subscribed for the *American Bee Journal* and the *Bee-Keepers' Journal*, the two latter being all the papers devoted to bees at that time. All of this, too, before I possessed a single colony of bees, and I was so interested in the books that they were as familiar as a nursery rhyme. This, together with what I found in the bee papers, placed me where I was ready to do something intelligently, and I procured my first two colonies in the spring of 1869.

That season was the poorest one I ever knew, but I recorded 12 lb. of honey and one swarm from the two old colonies, so I had three in the fall; but I had to feed with 40 lb. of sugar to give the bees stores enough for winter, which I did, as the books told me the way to do it. And that readers may see where the price of honey once went, I will say I was offered 50 cents. a pound for that 12 lb. of honey, right at my door.

I read and studied bees from all and everything I could find during all of my wakeful hours, and dreamed of them when asleep, and the reader will pardon me for saying that I am still doing the same thing, having greater zest in bee-keeping, and in raising it to a still higher standard, than in anything else.

When I read anything which I consider new and superior to what I am now using, I jot down the name of the paper, number and page where it is to be found, on a piece of section; then I put it in the "pew" holding all such things which are appropriate to a certain month, having twelve of these "pews," and then when the month comes around I take out all there is in there, spread them out, and thus I have all of these valuable things before me.

Yea, more. When I am at work preparing hives, sections, queen-cages, &c., during the winter, or with the bees during the summer, my thoughts are always "running" on the subject of bee-keeping, and when something new strikes me, which thought seems of value, I "whip" out my piece of section and pencil, jot it down, and as soon as I arrive at the "row of pews," in it goes at the proper place, to spread out before me at the proper time.

Yes, further: Some of my dreams are jotted down; and allow me to say that one of the most useful things found in our queen-rearing of the present was "dreamed out," and put in practice as soon as I was awake, namely, the queen-cell protector. To be sure, it did not come in its perfection, as Mr. West now has it, but the thing in its crude form came in something seen in a dream by a bee-keeper having the bee-fever, and that fever has been raging now over thirty years.

In reading over the above, I see there is a good deal of Doolittle in it, and I beg the reader's pardon, but I really did not see how I could tell you just what I wanted to without giving some of my personal experiences.

In conclusion, I wish to say in all kindness, if any person loves something else more than he does to study into bee-keeping, or does study only as a sort of duty, let him be assured that he has mistaken his calling, and the sooner he leaves it and goes to that which at all times gives him pleasure, the better off he will be in this world's goods, and the better it will be for the world.

If there are any who read this who have no love for anything except to sit around all winter "whittling a stick," whirling the time away in that way, let me say to them that the world would have been better off without them, and that these lines were not intended for them, unless they can turn over a "new leaf."—G. M. DOOLITTLE in *American Bee Journal*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Honey Poultices.—Referring to the mention by Mr. W. Woodley in his "Notes by the Way," last week, of remedial uses for honey, a correspondent, signing himself K. G., *Vicarage*, writes:—"Please describe how a 'honey poultice' (mentioned on page 43) is made and applied." Perhaps Mr. Woodley will oblige by giving the desired information in his next "Notes."

Plagiarism.—A correspondent says:—"I was pleased to read your editorial in last week's issue on "Plagiarism in Bee Journals," and I have often wondered at your patience and sympathised with you when I have noticed that you were the victims of an unscrupulous Press. Such wholesale purloining as that referred to is almost unbearable, and is much too bad; not that one or two writers in our own esteemed little BEE JOURNAL are altogether innocent of a little literary thieving—perhaps unconsciously now and then—a subject on which I may be tempted to send you a few remarks shortly."

Editorial, Notices, &c.

THE "WOMAN'S AGRICULTURAL TIMES."

We gladly comply with the request of the Countess of Warwick—who is editor of the paper—to insert the following notice with regard to the above capital monthly journal :—

"The *Woman's Agricultural Times*, which is the official organ of Lady Warwick's agricultural scheme for women, is making steady progress along the enterprising lines which it has marked out for itself. It aims at bringing into touch with each other the rapidly increasing numbers of women interested in the lighter branches of agriculture, and the revival of rural industries generally. There are monthly articles on dairy and poultry work, bee-keeping, and the various branches of agriculture and horticulture, so that the reader may benefit by the actual experiences of others whose purpose is to make their particular industry a sound and profitable undertaking. News of the Lady Warwick Hostel, and the work carried on there, is an interesting feature of the paper: the warden contributes a monthly letter, and the students also give accounts of what they are doing in the garden and dairy. It is proposed during the coming year to publish a series of interviews, which will give the opinions and advice of experts in the various outdoor occupations dealt with in the paper."

It will be seen that the paper referred to above occupies the same official position with regard to the "Lady Warwick Hostel" as does the B.B.J. to the British Beekeepers' Association, and as the hostel is entirely devoted to its founder's philanthropic effort for educating women in the lighter branches of agriculture—including bee-keeping—we cordially invite the attention of our readers (especially lady readers) to the objects of the "official organ" of "Lady Warwick's agricultural scheme for women." The paper —before us as we write—is a very excellent one, ably edited, and containing well-written articles on the various subjects dealt with.

It is, as stated, issued monthly, is published at the Lady Warwick Hostel, Reading, price 2s. per annum ; and may be had at Smith & Sons' bookstalls, price 1d.

BRISTOL, SOM., & SOUTH GLOS. B.K.A.

ANNUAL MEETING.

The eleventh annual meeting of the above Association was held at 11, High-street, Bristol, on January 27. After tea, business was commenced under the presidency of Mr. Henry Dixon, who, after reading several letters expressing regret for non-attendance, called upon the Hon. Sec. (Mr. W. T. Tarr) to read the annual report, in which was expressed great regret at the resignation of Miss H. Dawe, who had filled the office of Hon. Sec. and Treasurer since 1895. The Council are especially grateful to the President and Vice-Presidents for their pecuniary assistance in response to requests on behalf of the funds of the Association. Thus aided, the efforts of the Finance Committee, seconded by Mr. G. W. Kirby in collecting the outstanding subscriptions, resulted in the heavy deficit of last year being wiped off, with a balance in favour of the Association. One thousand three hundred and fifty-three stocks of bees had been visited by the experts, who reported altogether seventy-nine cases of foul brood. The membership is now 216, including seventeen new members. The report and statement of accounts were adopted. A vote of thanks to the President, Vice-Presidents, and the retiring officers was also passed.

Lady Smyth was then elected President, and the following added to the list of Vice-Presidents : — Messrs. James Brown, John Martin, E. G. H. Walker, and H. F. Jolly. Mr. Henry Dixon was appointed auditor ; and, with Mr. S. Jordan as Chairman, Messrs. W. J. Belsten, E. S. A. Gough, C. Harris, and G. W. Kirby were chosen on the Council ; Mr. G. W. Kirby as expert, and Mr. W. T. Tarr as Hon. Secretary and Treasurer. A very pleasant meeting closed with the usual votes of thanks.—(*Communicated.*)

NOTTS BEE-KEEPERS' ASSOCIATION :

ANNUAL MEETING.

The annual meeting was held at the People's Hall, Heathcote-street, on Saturday, February 10. The Rev. H. L. Williams presided over a large attendance, and amongst those present were Messrs. W. S. Ellis, G. Hayes, P. Scattergood, A. G. Pugh, F. H. K. Fisher, W. Herrod, T. W. Harrison, R. Mackender, S. White, R. Turner, S. W. Marriott, G. E. Skelhorn, and J. Gray. The secretary (Mr. Hayes) presented the annual report, which recorded a steady growth in the Association. The number of members amounted to 182, as opposed to 147 three years ago. The financial statement showed a small, but satisfactory, balance. The Notts County Council continued their grant of £30 for technical instruction in bee-keeping, and by its aid they had been enabled to give practical lessons in the bee-tent at Mansfield, Kingston, and Clarborough. The Nottingham City Council had also made them a grant of £2 2s, and arranged for the delivery of two lectures at University College.—The election of officers for the ensuing year resulted as follows : President, Lord St. Vincent ; secretary and treasurer, Mr. G. Hayes ; auditor, Mr. P. Scattergood ; delegates to the British Beekeepers' Association, Messrs. Hayes and A. G. Pugh ; committee, Messrs. Brooks, Faulconbridge, Wadsworth, C. Forbes, T. W. Harrison, S. W. Marriott, G. E. Skelhorn, A. G. Pugh, J. R. Turner, G. E. Puttergill, W. Wil-

son, S. White, and W. Swann.—Articles were contributed for the annual prize drawing by Lord St. Vincent and others.—GEO. HAYES, *Secretary and Treasurer, Beeston, Notts.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[3905.] The month of February has proved the truth of the old adage, "February fill dyke, either with the black or white." We awoke on the 3rd inst. to find a white world—the ground covered in a mantle of snow, trees and shrubs laden to breaking point. The distant hills in Hampshire capped with snow, while the hedgerows on the slopes divided the landscape, and made a picture of Arctic loveliness. The apiary, too, was clad in its most picturesque garb, every hive-cover being loaded with a capping of snow nearly a foot thick. I was sorry that no photographer lived near me, or I would have had a view of the apiary in winter taken.

Tits and Bees.—Now, I thought to myself, we shall be able to prove beyond doubt whether tits eat the live bees or the defunct ones of the previous day which the bearers have carried out. All the entrances to frame-hives were so blocked with snow that the tits could not get to them, but some of the straw skeps, which stand on higher stools, had very little snow at the entrances, and two or three none at all. About 9 a.m., two or three tom-tits and a pair of blue tits arrived—hungry, no doubt—the temperature being considerably below freezing, as shown by the thermometer hanging on a north-west wall. Very soon it became clear that the tits were feasting on dainty morsels culled from the hives, as I was watching their "little game" intently. I do not say that the tits deliberately "tapped" at the entrance in order to bring the bees forth, but they made enough disturbance at the entrance to cause bees to come out of the hives visited by the birds. So after watching for some minutes and noticing that the tits paid particular attention to a couple of the skeps, I walked up and examined the whole row of six straw hives, and at the two special ones referred to I found several bees dying in the snow. At one hive I counted fifteen bees, and at the other six bees in the snow, in front of the hives, while there was not a single bee in front of any of the other hives, the temperature being too low for flight except from disturbance. Returning to my watch-tower, I again kept a look-out to see if the poor bees lying on the snow would be good enough for the tits, because there could be no doubt of their seeing them if they repeated their visit. In a few minutes they were as busy as ever at the same two hives. On seeing this, I went and picked up some of the benumbed bees from the snow, warmed them up and back to life, and let them run into the hive. I did this in order to prove if they were living bees which had taken wing from the hive or some dead ones that the tits had thrown off from the mouth of the hive to reach the live bees behind. A shovel-full of snow at each of the hive entrances put a stop to further depredations, and a spring trap, baited with a small piece of suet, soon caught three of the tits; the others, with more discretion, flew away, only to be caught another day. I never catch one of the fluffy, painted beauties without a twinge of remorse, yet as a bee-keeper one feels duty bound to wage war against the enemies of our bees. With a mouse in a trap, and pussy ready to dart on it when released, the case is somewhat different, at least to my feelings; but to put the trap with the live mouse into a bucket of water, and see the little bubbles arise as the water takes the place of the small germ of life, raises thoughts by no means pleasant. In fact, I always consider it a gruesome task, and the couplet of Pope (I think it was), "Take not away the life you cannot give, For all things have an equal right to live," is ever present.

Honey Poultices.—For boils, carbuncles, abscesses, &c., and for injured bones, mix the honey with flour, and spread on a piece of linen rag. If the abscess is coming to a head, cut a hole in the centre of rag to allow of free discharge of matter. Honey added to an ordinary bread poultice will answer the same purpose, or it may be used in conjunction with linseed-meal poultices; it will render them more emollient. (This in reply to "K. G.," p. 60.)

Prices current for Honey.—In *The London Commercial Record* before me, of February 2, 1900, I get the nearest approach to what I consider would be a help to bee-keepers, large or small. Under the heading of "Drugs and Drysalteries" I find, for this year and last, as follows:—

	1900.		
Honey, Jamaican	.....	25s. to 30s.	per cwt.
„ Californian	....	37s. to 40s.	„
„ Chilian	.....	30s.	„
	1899.		
„ Jamaican	.....	18s. to 25s.	„
„ Californian	....	35s. to 40s.	„
„ Chilian	.....	19s. to 26s.	„

These quotations show that honey this year is dearer than it was twelve months ago, yet I think if you inquire among producers of British honey, they will say that sales were never slower or prices ever lower.

Now, I think our journal, circulating amongst bee-keepers throughout the kingdom, ought to be able to give an approximate price current from the large centres of commerce. All that we want is some leading

house in each centre to start the matter, and a quotation printed in our columns would be a guide to the bee-keeper when an offer was made for what he has for sale. As I have argued before, firms who buy honey in large quantities to sell again wholesale cannot afford to give so much per dozen for either sections or jars or bulk as the firm who buys to sell retail ; neither is it fair to the first-mentioned firms to sell to retailers on the same terms. If we are going to do business on these terms, the large factors will not trouble to handle honey, as there will be no margin of profit. Now if our B.J. could get quotations of market prices, I contend that the bee-keeper would have a guide when he put his produce on the market.

Then to make matters work smoothly, we want a definite system of grading both as to filling or weight of sections and colour and quality of the honey. Who will help elucidate this matter?—W. Woodley, *Beedon, Newbury.*

[Our esteemed correspondent has frequently suggested that the B.B.J. should obtain and publish prices current for honey for publication, and we have given our reasons for considering that such publication would not conduce to the best interests of British bee-keeping, and have besides explained the impossibility of securing satisfactory or reliable returns. This being so, we can add nothing to what we have said before except to say that if Mr. Woodley, instead of suggesting, will formulate a practical scheme by which useful information can be obtained, we will do our best to carry it out. For the rest we can only repeat that there is a wide difference between making suggestions and carrying them out, to say nothing of the differences of opinion among our readers regarding what constitutes a useful "prices current" for honey in this country. For ourselves, we cannot think the quotation given above from the *Commercial Record* is very helpful ; and, on the other hand, we note that a very practical Scotch honey-producer avers immediately below that Mr. Woodley's own prices for honey as published almost "solves the problem" of prices current.—Eds.]

PRICES CURRENT FOR HONEY.

[3906.] Your correspondent Mr. W. Woodley has to a certain extent solved the problem by his advertisement in the last few issues of the B.B.J., and as it will be a standing landmark —appearing all the year round—I trust others will follow his example. Some time ago Mr. W. expressed a doubt whether, with my large "take" of honey this year, I would not find a considerable drop in prices. He predicted that the middleman would stand out for a fall. I am glad to record that his prognostications have not been verified. With about double my usual crop, I sold out at an earlier date than usual, and at *my own prices.* These were 1s. each for heather sections and 10d. per 1-lb. jar for clover honey, many of the latter being a slight blend of the two honeys named. These prices were all what I may call retail, and in every case the customers paid carriage. Two lots of 100 lb. each went at 10d. wholesale, but they included second-grade sections. The number of these, however, was this year insignificant. Two-thirds at least of my crop was pure heather, so that my average price per section was rather over 11d. As I do not glaze, but wrap up each section in waxed paper and then parcel in half-dozens in brown paper, the expenses are small. All my heather honey went south. I tried local advertising as an experiment, but drew a blank. I think my average price will bear favourable comparison with any I see quoted, and I trust the day of accepting 6d. per lb. is far away. I know large numbers of sections have changed hands at that figure. One customer who several years took 100 sections from me at 10d. offered 7½d. this year. We did not deal, but he showed me excellent sections purchased at that price. Fairly good heather sections were sold at 10d. retail in shops in several Northern towns, so that many bee-men must have sold out at a very low figure. Why some should sell out at 6d. and others get 10d. and 1s. for much the same grade of sections is a puzzle to me. The insane rush to be first in the market and to sell out at any offer made creates an annual glut in early August, as was witnessed this year. I filled in a few standing orders early, but otherwise disposed of none until October ; yet I was sold out before the end of November. While holiday-making I called on nine leading grocers in one of our county towns. Six of these would not take any more honey at *any price.* All the others were overstocked, and that at the very beginning of the season ! If my voice could be heard by the erring ones, I should like to protest against the specimens of sections several of them placed on the market. Most of what I saw was first-grade, excellent in appearance and, I doubt not, in quality, but mixed up with this excellence was much of the poorest stuff imaginable —watery, weeping, dark-wooded, travel-stained, badly-shaped, light-weighted, thumb-marked. These might be the 6d. ones, and they were dear at the money ; but why should they have been mixed up indiscriminately with sections fit to take a prize at most shows? The subject of grading needs to be studied by either bee-men or grocers or both.—D. M. M., *Banffshire, N.B., February* 8.

TOMTITS AND BEES.

[3907.] Much has been written *pro* and *con.* upon this periodically recurring subject, and I can from my own personal observation confirm our old friend Mr. John Walton's opinion, as expressed in your last issue of the Journal (page 57), that the tomtit is a real culprit in the matter of preying upon live bees. More than thirty years ago my father resided at The

Foundry, Bridgenorth, and in the large and well-fruited garden he kept bees successfully on the collateral system and in favourable seasons invariably obtained honey by the hundredweight. I was then an ailing boy at home, and devoted many hours to watching the long row of bee-hives snugly sheltered from the north by a high privet hedge. In chilly winter days I have frequently seen the tomtits alight on the landing boards and proceed to tap, tap at the hive front. In a minute or less a bee would appear at the entrance, to be at once snatched up by Mr. Tomtit.

The bird at once flew to the branch of an old greengage tree near, where he quickly dissected the bee (precisely in the manner related by Mr. Walton) and unless frightened off by my watchful *mater* or myself, the hive roofs would soon be littered with the corpses of the slain, which, young as I was, I used to think was like adding insult to injury. To steal and to murder, and to leave the remains of the killed so offensively *en evidence* was horrible and unbearable, and resulted in the offenders being scared away or other retaliation made on them in the way of suspending a not too barely scraped meat bone from a tree upon the lawn for Mr. Tomtit's special behoof, and it was amusing to note how cleanly and smartly Master Tom would pick a bone. My parents would never permit their boys to trap or slay the tomtits, and they impressed upon us that although these birds may sometimes destroy a few bees, the damage was more than compensated by the good the tits did in devouring numerous insects that infested the many fruit trees in our garden; and since arriving at man's estate the writer also can say "Them's my sentiments too."—J. EDMUND RODEN, *Quatford, Bridgnorth, Shropshire, February* 10.

A PLEA FOR THE TOMTIT.

DANGER OF USING BURNT CANDY FOR BEES.

[3908.] The letter of your esteemed correspondent Mr. Walton on page 57 has encouraged me to attempt to plead, in the interests of bee-keepers and fruit-growers, on behalf of the tomtit family. These birds in our bee-books have unfortunately been put under the heading of "Enemies of Bees," and thus relegated to an ill-starred fame among bee-keepers. But I never could see that the annual correspondence in the journals ever made out a just indictment. Mr. Walton would seem to have made out a case against them, and I do not doubt his witness, but as a bee-keeper I strongly protest against them being trapped and exterminated. Granted that they have been seen at times during winter taking bees, does it amount to any serious harm in an apiary? I think what bees go out at such times are for the most part old ones, and a few from each hive would not be missed. Then at the first sign of spring the tits commence compensation, for they go off to the fruit trees searching the opening blossom-buds of pears, cherries &c., for the small grubs which feed into the heart of the blossoms. To the bees then, the birds are here more than friends, they are life-allies.

It seems foolish for it to be given out that we bee-keepers, whose interest it is to preserve the floral world, are waging war with birds, without whose co-operation, I venture to think, vegetation would be entirely besieged and crippled by the caterpillar races.

The simple plan which I have practised for many years of hanging up bits of suet-scrap, and placing hemp-seed in shallow boxes, will be found sufficient to satisfy the tits in an apiary without their molesting the bees. In reciprocating our friend Mr. Walton's good wishes, I hope he will try some other method than injuring the birds.

Whilst here, I would like to put in a reminder against the burning of candy for food. In two apiaries recently I have come across burnt candy stuff placed on the hives, with the result that many bees have died.—W. PENN, *Perry Barr, Birmingham, February* 10.

(*Correspondence continued on page* 66.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Miss Fisher, whose bee garden appears on next page, is one among the many lady readers who have recorded a success with bee-keeping in our pages. Miss Fisher's mention of bees paying "much better than fowls" corroborates Lady Henry Somerset's testimony last year (*vide* B.J., page 350), that at the farm colony at Reigate "the bees are really our most successful venture." Of her own bee-keeping Miss Fisher writes:—

"I began bee-keeping in the autumn of 1896, buying a hive with bees from an 'expert, but, according to my experience, both were frauds, as the hive never contained a queen, and he is, I should think, no expert at all. In the spring of 1897 I bought a swarm, and it was placed in a 'W. B. C.' hive, then a second swarm was bought and put in a hive I got in exchange for some fowls. About the same time I had a present of a swarm and skep from a friend. I should have done well in 1897 but was hindered by a very clever (?) man—in his own estimation—who said he knew more about bees than any bee-books could tell him. However, I could not agree with his estimate of himself, and he took his departure. One or two very kind bee-keepers tried to help me, but I wanted to learn something of modern methods of bee-keeping, and in the end I got the address of a genuine expert from the Berks B.K.A., when they told me of Mr. Geo. Sawyer, of Marlow. As soon as he undertook to keep a 'watchful eye' on my bees everything became different. His first visit was in autumn, 1897, and he generally comes over twice a year. In the autumn, 1898, he found

foul-brood in my best 'W. B. C.' hive, and Mr. Sawyer stayed the whole evening so as to make sure it was properly dealt with by removing the bees from the diseased combs. I hived them myself after they had fasted forty-eight hours, and had to feed them, of course, afterwards. From this same hive I took seventy-six lbs. of honey in section the following year.

"Regarding my personal experiences of bee-keeping which you ask for:—I am a beginner, and I may say had any one told me five years ago I should be able to handle bees I should have thought it a stretch of imagination. Mr. Sawyer, the 'expert' already mentioned, comes to examine my bees early in the spring. He is very keen after foul-brood, and (he entered it in his book as 'well-managed') advised me to have more shade. I follow the instructions in 'Cowan's Guide Book,' and always look forward to my BEE JOURNAL and *Record*. I should very much like to have an expert's certificate myself, but I cannot as yet handle bees without gloves, so I should not pass. Perhaps some day I may be brave enough, but as bees will sting my *hands* I feel nervous, and as I am obliged to do all I can myself, and gloves give me more nerve, I do not think I am very wrong in wearing them. I took off a great deal of the honey myself, but I could not manage it all, so had to get Mr. Sawyer's help. He left me a little to take off even then as some sections were not quite filled. During

MISS E. J. FISHER'S APIARY, HEATH END, LOUDWATER, BUCKS.

I feel if he passes my colonies as 'healthy' they will do. I managed the work myself last summer, and as I did not want to increase my stocks too quickly, having only a limited space, I therefore watched for swarms, and when they came off I opened the hive, cutting out queen-cells and returning the swarms after sun-down. I had ten swarms altogether, for the bees left the hives several times, but I managed at last to make them stay 'at home.' You will say I ought not to have had so many swarms, but I am afraid my bees need being shaded (I have just had some trees put in front of hives for shade), for it is terribly hot here in the summer, as we are at the top of a very high hill 300 ft. above the Thames. Mr. H. Atlee (an expert), who visited my apiary swarming time, when I found the bees would keep swarming, I opened hives, took out one of the end frames and put a frame of comb-foundation in the middle, and after that I found they did not swarm again. When the weather was very hot and racks of sections were on, I propped up the body boxes to allow a current of air. I also cut large baskets-full of nettles and placed them on roof of hives, in fact, did all I could to keep them cool. I make all my soft-candy and bee-food myself, and take care that the bees are comfortable for the winter. I always place two large cakes of candy on the top of frames, covering the latter with cushions filled with chaff, which I put over the quilts. I do not open hives more than I can help, as I am sure it upsets bees.

I try to handle them as quietly as possible and make sure to have all I require at hand. I use some old wood from a dead tree in my smoker, but I have to be very careful of the sparks, as one day I found a quilt had caught fire; besides, if a spark falls into the hive it annoys the bees very much.

"Regarding the past season of 1899, I had at work five frame-hives and one skep, and from these I have taken 450 lb. of honey, all of which is sold. My expenses for 1899 were £7 4s. 6d., and the takings £12 5s. 6d. For 1900 I have two spare hives and plenty of section racks; all I shall have to buy will be a wax-extractor, comb-foundation, and sections. Given, therefore, fine weather, I trust to do well, as this is the ideal spot for the 'craft.' I am sorry to say I am still rather nervous, for I had such a 'stinging season' in 1897 from bad management that I have not quite regained confidence. It is really wonderful how the bees know a proper 'expert,' for Mr. Sawyer never gets stung. I am also a 'poultry keeper,' having raised over 400 chickens last year, so with both my 'hobbies,' which have to be paying ones, I find plenty to do. I think bees pay much better than fowls. I do all myself, for Mr. G. S. only comes twice a year. Everything is well scrubbed and packed neatly away, and I am quite longing for the hum of my 'dear little workers.'"

CORRESPONDENCE.

(*Continued from page* 64.)

AN OBSERVATORY HIVE.

A SEASON'S "OBSERVATIONS" OF BEES AT WORK.

[3909.] Probably no development of bee-keeping can give greater and more sustained pleasure to its fortunate owner than a well-devised observatory hive stocked with a healthy colony. It will, indeed, prove to be of absorbing interest to any intelligent person who may come across it. The hive should contain not less than six standard frames, and an additional story for sections as may be needed. It should be double glazed in such a manner that every portion of the combs on each side is visible, and should contain a trustworthy thermometer. The best position for the hive is close to a roomy north or north-east window in a hall or sitting-room. The exit will be through the hollow central pivot on which the hive revolves, and this should lead *immediately* into a glazed passage through which the bees will pass on their way to the flight-hole through the window. The advantage of this arrangement cannot be overrated. Not only will the movements and disposition of the framing bees be thus displayed, but every bee that enters will be under convenient observation, and a magnifying glass can be used to advantage. A feeding place of the kind devised by Mr. Brice should form part of the equipment, as staged by Mr. James Lee at the "Royal" and several other shows during the past season.

Into such a hive as this I introduced a stock of nearly pure Ligurians on June 3 last. The queen had been lost a few days before in an attempt to swarm, and queen-cells were in progress. A queen was soon hatched. It was interesting to see how little notice was taken of her even when, as the other queen-cells were nearly ripe, the bees made up their minds to swarm. The queen showed great excitement, but failed to find the exit, in spite of which the bees went off, and actually clustered on a neighbouring tree, remaining there for several minutes. They then returned. Next day the queen must have found the way out, for two days later all the queen-cells had been destroyed, and she herself bore a matronly appearance as she walked about the combs, attracting to a moderate extent the attention of the bees as she passed them. I was disappointed at not having seen her leave the hive or return to it, but that very week, when examining a nucleus hive, I found another young queen at what must have been almost the moment of her return, for she was still carrying about with her the organs of the mutilated drone with whom she had coupled.

The colony throve and multiplied till the middle of August, when the queen became less anxious to lay eggs, and by the end of the month most of the combs were filled with honey, principally, I think, from heather. So I cleared out one side of the hive, gave one empty comb and a full sheet of foundation, and fed back the honey removed. In this way fresh energy was aroused; the queen laid freely, and all partly-filled sections were completed. Sections completed under the influence of autumn feeding will never be very clean or good to sell, and on the whole it is as well that this should be so. The whole summer's yield was fourteen filled sections. At the end of September the colony was removed into an ordinary outside hive for wintering, the queen being unfortunately lost in the transfer. I will now refer to certain points which may be of interest.

The queen when laying invariably turned herself round so as to be head downwards on the comb. The time occupied in depositing the egg and getting clear of the cell varied usually from twenty-five to thirty-five seconds; very seldom as little as twenty-five and occasionally as much as forty-five. In the brisk season the laying seemed to go on throughout the twenty-four hours, but with intervals of varied duration. I often observed at night, but never through the twenty-four hours. The "Guide Book," supported by other books of instruction, says that the queen is *capable* of laying from 2,000 to 3,000 eggs a day. I do not dispute it, although it would be interesting to know how the conclusion has been arrived at. But whether capable or not, it seems to me

improbable that the number of 2,000 is ever reached. Suppose the queen to lay for eighteen out of the twenty-four hours, resting only six. At the rate of two eggs a minute the number laid would be 2,160. Now this would be possible only when that number of cells should be ready for her, empty and adjacent. This implies about eighty-six square inches of unoccupied worker comb, in itself a not unreasonable condition ; but it must be remembered that the queen would not settle down to wholesale laying unless honey and pollen were coming in plentifully. When this is the case, a competition for the empty cells arises between queen and workers, and here and there she will soon find a cell blocked. A grain or two of pollen or a trace of honey suffices. Again, bees are not methodical, and as a queen is found on dissection to be poorly supplied with brains as compared with a worker, it is not surprising to find her travelling rather aimlessly along the combs and examining cells in which she has recently laid an egg. She will therefore soon cease to get in her two eggs a minute, and I think it will be found that she spends more time in looking for cells than in laying. For the above reasons it seems to me probable that a queen rarely lays more than 1,000 eggs in twenty-four hours.

It is well-known that a queen when fully primed for laying is unable to retain her eggs. I saw my queen in this condition. The egg was deposited, or rather dropped on to the outside edge of a cell, and was at once seized and devoured by an expectant worker. Once only did I see two eggs deposited in the same cell ; one of them subsequently disappeared.

Last summer I brought home a laying queen from a neighbouring apiary. She was in full laying condition, and laid several eggs while on my hand, so that it was easy to watch the operation through a good magnifying glass. The use of the sting as ovipositor was very evident. This queen seemed to be surcharged with eggs, but having no cell wherein to place them she retained them as long as possible, so that at one time she had to the best of my belief, no less than four eggs loose within the cavity of the last segment of her abdomen. After watching her for a considerable time I remained in doubt whether or not as long as no more than two eggs at a time were loose she retained the power of depositing an egg singly. On the other hand, although three could be retained in the cavity they came out confusedly. While I was watching her, an egg protruded for a few seconds without leaving her body, and was retained until no less than four eggs were ejected simultaneously. It seems probable that when more than one egg has been observed in a cell, those eggs present have been deposited simultaneously and not as a deliberate action on the part of a queen or fertile worker. I have never seen it stated whether the sting of a fertile worker has a tendency to curve as does that of a queen bee. If not, the former would be at some disadvantage, tending to irregularity in ovipositing.

In some places the bees preferred not to build out the foundation to its full extent, and instead they built what might be called fancy combs upon the glass. The clever way in which the cells, of every imaginable shape, and with their entrances pointing in all directions, were filled with honey and sealed was extremely interesting, but a truly exciting moment was when a full-grown grub suddenly appeared in one of these cells, with nothing but the glass to protect it from observation. No egg had been laid there, and how the grub had worked its way into the cell I could not say ; but there it was, with its head pointing downwards, or nearly so, and waving to and fro at the entrance of the cell, while it did its best to spin a cocoon. I could see the silk thread. It seemed as if I were about to have a chance never before vouchsafed to any observer, of watching all the phases of larval metamorphosis. Alas, it was not to be. At first two bees set to work to build in the mouth of the cell, and all looked promising ; but I was called away, and returned only to find a bee sucking the last juices from the larva's shrivelling skin, and before long that, too, disappeared with all my hopes.

It is not until one has watched a queen for several days in the breeding season that one realises what a mere egg-producing machine a queen bee is, and in watching her your sentiment changes gradually from admiration to pity, and finally dwindles—at least, mine did —into a lack of interest. It becomes a relief to turn away and watch the varied occupations of the hive. Pity one must feel, because, night and day, the unfortunate mother of all knows no peace. It is the fashion nowadays to say that the queen has no bodyguard, no band of attendants. And this is true, inasmuch as she does not appear to have a regular band of attendants told off to her. It would not be in the nature of bee life if she were so attended, for all through a hive the labour, if constant, is wonderfully desultory. Yet throughout the breeding season, wherever the queen may turn her steps, she attracts attention from the bees among whom she passes, and especially from the younger ones. Some of these do follow her for a time ; it is they who throng around her while she is laying ; they stroke her with their antennæ, lick her body with their tongues, by means of which they also feed her. Beyond question the young bee has an awe of the queen. On her coming near enough to one of them for it to become aware of her presence, it turns round at once to face her, probably advances a step or two and retreats suddenly, and if she comes in its direction the young worker bee backs briskly out of the way, running backwards, sometimes as much as an inch, to clear the road. An old bee gets out of the way more leisurely ; but it is seldom that any bee re-

mains near a queen without facing towards her.

When the queen wearies of looking for suitable cells, or has exhausted the supply of eggs at her immediate command, she leaves the brood nest and would fain rest awhile. But no! Then, more than ever, a circle of young bees, from thirteen to eighteen of them, surround her, and she knows no peace, not even when she gets her head and thorax into an empty honey cell. I have often seen her lifting up one leg after another impatiently under their assiduous grooming, as if she had been a fidgety horse. And yet a good many of the encircling bees do not touch her, even with the ends of their antennæ, although these feelers are constantly being waved around her. It seems impossible to doubt that by means of their antennæ, and either by the sense of smell or by some sense unknown to us, these young bees experience an acute pleasure in being near their queen. Perhaps it may be the same sense of proprietorship that a dog enjoys when he smells his owner's legs; a sort of feeling that all is well and the universe satisfactory. In any case I believe that their attendance gives them more pleasure than it does the mother-bee.

(*Conclusion in our next.*)

HANDLING BEES.

(*Continued from page* 54.)

On the other hand, there is no bee-keeper who does not fall considerably in our estimation (*as* a bee-keeper) when we drop in unexpectedly on a hot day and find him among the bees, topcoated, tightly muffled up, with bee-veil tied on "to stay," long stockings drawn over his hands and arms, gloves over them, trousers tied inside his socks—in fact, rendered hot and perfectly wretched with the defensive precautions taken against being stung. In such a costume he takes no care in handling his bees. They cannot get at him, and he "gets at them" instead, and gets on badly in consequence. This is the other extreme, and extremes are to be avoided in bee-keeping as in everything else. It is perfectly true that many become so conversant with the ways of bees, and so fully aware of how to avoid their stings, that it gives rise to the idea, in the minds of inexperienced persons, that some men possess a special power over bees quite unattainable by others; while, as a matter of fact, the "power" arises from the simple knowledge of certain peculiarities in the character and temper of the insect, which may be acquired by any one. A personal experience of our own may serve to convey a lesson while illustrating this. A few years ago we consented to do some manipulating in the apiary of a gentleman very enthusiastic over his bees, but not very conversant with their ways. Quite a company had been invited to be present, and when we arrived our friend hastened to explain that he had inadvertently left a recently emptied honey cask right in front of the hives, to be cleared by the bees of the honey left on the sides of the tub; and, said he very apologetically, "The tub is full of bees. Whatever shall we do to get rid of them before beginning operations?" "Clear them out," was our reply; and, without using either veil or smoker, we at once seized the tub with both hands and banged it from one side to another, till the poor bees, gorged and frightened, and (as any bee-man would know), harmless as flies, arose in a perfect cloud about our head, and scampered off to their respective hives in thousands. The onlookers were, of course, amazed, but *we* knew that any among those who gazed, wondering at the "power" displayed, could have done the same thing themselves. Under the peculiar conditions existing at the time, the bees were perfectly harmless, and the idea of stinging the rude disturber of their feast would never enter their little heads — or *tails* either, for that matter. Knowledge first, confidence afterwards, are the main points in handling bees, and those possessing any aptitude at all for the work may soon acquire these; but it is just as important to know when and under what circumstances it may be risky, if not a little dangerous, to take liberties with bees as it is to know when they may be handled roughly with impunity. In any case analogous to the one described above, it is only necessary to bear in mind the fact that bees, when carrying off food they have had no hand in storing, or when appropriating honey belonging to their neighbours, *i.e.*, "robbing," will stand any amount of rough driving off without resenting it. Wives of bee-keepers especially should remember that a roomful of bees which have found their way into the "honey-room" of the house, as sometimes happens in harvest-time, may be driven out by a child without it receiving a sting.

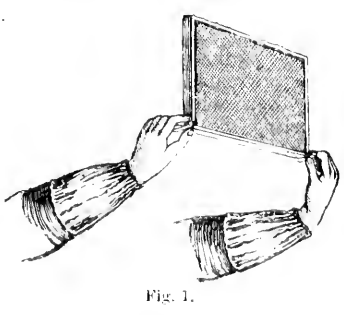


Fig. 1.

The beginner must first wear a bee-veil and gloves. The latter may be such as are sold by dealers, *i.e.*, a pair of thick woollen ones, with a second pair of thin cotton to slip over these. If the hands thus gloved are dipped occasionally in water and vinegar while working, bees will seldom attempt to sting. Rough, home-

made gloves of American cloth, made with the glazed side out, are also a good protection for the hands. Thick woollen ones, covered on the outside with silk, say the cover of an old umbrella, also answer capitally during the elementary stage of the learner's experience. But gloves of any kind should be discarded at the earliest day when confidence is gained, and once cast aside, they will rarely be resumed. Their place should then be taken by a pair of "sleevelets," made from strong black "silesia," such as is used by tailors for the backs of vests. The form and size will be seen at once in the cut (Fig. 1). No further description is needed beyond saying they are about nine inches long, and wide enough to slip easily over the coat-sleeve, with a band of elastic run into the hem at the bottom, and a rather longer band of the same material in the top edge. These keep the coat clean and prevent the possibility of bees getting up the arm or being crushed while on the wrists by the coat-sleeves. We much prefer them to the usual elastic band passed round the sleeve at the wrist.

These sleevelets and a veil are all the protection necessary for any and every operation required in bee-keeping. For the veil get a good one, take care of it, and it will last ten years or more. The best material for the purpose is fine black silk net; next to this, and less expensive, of course, is fine Brussels net. These materials, though not

Fig. 2.

so cheap as the ordinary coarse net or leno, are so much preferable to the latter, and withal so light and pleasant to wear, while hardly obstructing the vision at all, that any *careful* bee-keeper may invest in a veil of the right sort, though its cost is more than double that of a common one, for the material is so durable that it becomes cheap in the end. Our own veil weighs less than half an ounce, and may be carried unnoticed in the waistcoat pocket. Use no colour but black, and let it be simply a bag without covering top or bottom, about half a yard across and 18 in. deep. Into a hem at the top edge insert a band of light elastic to slip over the hat. Notwithstanding the almost invariable advice given to have the lower side of the veil open for slipping beneath the coat collar, we much prefer to have a long piece of elastic (a narrow tape will answer, but not quite so well) run in the lower edge of the veil, not tight enough of itself to draw the veil close round the throat, but loose, so as to require pulling out in front while the veil is pressed back close to the throat with the hand. Worn so the veil hangs loose and clear of the face, while it is held close round the neck, as in the cut (fig. 2). It is safer, cooler, and pleasanter to wear thus than when the lower side requires tucking in beneath the coat in the ordinary way.

(*Pressure on our space compels us to defer conclusion of this article till next week.*)

Queries and Replies.

[2333.] *Putting Bees in Peach-house in Early Spring.*—1. Would it be harmful to bees if the hive is put into a peach-house for a few weeks at the end of February in order to fertilise the peach-blossom? Heat of house from 54 deg. to 60 deg. 2. Which bee is the drone's father, and how is it related to the drone's sister (working bee)? 3. In the "Wells" hive should the excluder be placed immediately over the frames or on strips of wood ¼ in. thick lying above frames? 4. I have a few partly-filled sections left from last year; would it do to give them to the bees in the spring, and use the sections again during the summer? 5. Would bees work as well in a box filled with frames 1⅜ in. from centre to centre. Could they breed drones in such a box? Or would it be advisable to put in one or two frames 1½ in. from centre to centre? 6. What is the difference between "Weed" foundation and ordinary foundation, and advantages, if any? 7. When should "stimulating" be commenced in spring so that bees may be expected to swarm during the last week of June?—J. A. K. R., *Perthshire, February* 6.

REPLY.—1. Very harmful indeed, inasmuch as it would cause the loss of hundreds of bees. 2. We can hardly suppose that our correspondent intends this query to be taken other than as "a mild joke." 3. Personally, we prefer the excluder to lie close on the top bars with the perforations *across* the openings between frames. 4. Sections to be really good should only be used once; not emptied, and re-filled another season. 5. The normal or proper distance apart for brood rearing is a shade under 1½ inches from centre to centre, taking the mid-rib of the comb as the "centre." To be quite correct, say 1$\frac{7}{20}$ in. By reducing the distance to 1¼ in. ensures the building of worker-cells only in comb-building, and thus prevents drone production. Any deviation from these distances is not desirable, nor could we vouch for definite results, one way or the other, if departed from. 6. "Weed" foundation is made by an entirely new process of "sheeting"

the wax, which process ensures an altogether better result than the old or "dipping" method for securing sheets of wax. 7. Don't "stimulate" till bees start carrying in natural pollen.

[2334.] *Keeping Bees in a Cottage Window.*—I propose placing some hives on the first landing of a cottage which faces east, and should be much obliged for your opinion regarding the advantages or disadvantages of so doing. 1. The cottage is now out of repair and the windows are broken; should I have to repair them, and how manage for the bees to get out and in? 2. Can I use single instead of double-walled hives and so save cost of same; and should I get better returns by keeping them in than out of the cottage? 3. Could I, by clipping the queen's wings and placing an empty hive in the room, be sure of not losing either queen or swarm if visited, say, three times a week?—AVARICIOUS, *Wilts, February* 7.

REPLY.—1. A few hives might be kept as proposed very well, and so long as the "cottage" is rain-proof, little attention need be paid to the broken windows, so far as the bees are concerned. If the hives are placed close to the window, it only needs an alighting board fixed in front and a passage-way into the hive entrance. 2. Single-walled hives only will be needed. 3. No; this plan will not work. The only way of preventing loss of queens in your circumstances is to use a queen-retaining device, to be had from any appliance dealer.

[2335.] *Honey for Showing.—Bee-keeping in Burmah.*—I am enclosing three samples of honey upon which I should be glad to receive your opinion. No 1 is from a small lot extracted last July; though bottled and undisturbed since that date it has failed to granulate, while other and later honey kept in the same place has behaved in the ordinary way. 1. Is it a common occurrence for honey to remain clear through the winter? No. 2 is a sample of the mid-season's crop; 2. Can you give me any idea of the origin? No. 3 I have lately extracted from some beautifully white sections which remained on hand unsold; 3. Would the quality of this be good enough for show purposes? 4. Would you recommend mixing Nos. 1 and 3 and bottling a few pounds with a view to entering as last year's honey at some of the shows this summer? 5. A relative who is resident in Burmah consults me as to the possibility of bee-keeping in that country, near Mandalay. He informs me he has never seen a hive out there, though flowers and wild bees are plentiful. Perhaps you can enlighten him as to whether his project of starting a small apiary is feasible in that distant, if not "out of the way corner," of the British Empire.—HAMPSHIRE NORTH, *February* 7.

REPLY.—1. If kept in warm cupboard during the winter and spring months, there is, as a rule, not usually any difficulty in keeping honey clear and liquid, but if allowed to take its chance without care of any kind, it will generally granulate within five or six months, often a great deal less time. Some honeys will granulate in spite of temperature before it has been removed a month from the hive. The sample sent (No. 1) is a very excellent honey, good in all points. It is, we think, largely from white clover, but not entirely. It is now beginning to granulate. 2. The sample (No. 2) is from mixed sources, including white clover, but it is behind No. 1 in quality. 3 and 4. The same may be said of sample No. 3, which lacks ripeness. For show purposes we should choose No. 1 only (not mixed with any other), and immerse the vessel containing the honey in warm water long enough to dissolve the granules, like wax particles, beginning to form in the honey as it now stands. If this is done carefully and not overheating (which would destroy the fine aroma it now has), it will make a very good sample for the show bench. 5. We have not sufficient practical knowledge of Burmah to say whether or not honey production could be made a success of there, but it would be very interesting to try a couple of hives in the neighbourhood of Mandalay. We would be very pleased to hear how it resulted, if tried.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** The Hon. Sec. of the Worcester B.K.A. writes as follows: "In reply to a 'Lonely One,' who is making inquiries with reference to the above Association, the Hon. Sec. begs to inform him that the Association is still doing a good work, that the full report will be presented at the annual meeting, which will be held on April 7, and of which meeting each member who has paid his subscription will have due notice."

P. W. B. (Sulby, Isle of Man).—*White Patches in Jars of Granulated Honey.*—The "streaks or white patches" referred to chiefly arise from the way in which the honey is jarred off. It should be allowed to fall into centre of the glass jar when filling, and so run gradually to the sides without any air getting between as the jar fills. The remedy after granulation is remelting the honey.

*** *We are compelled to hold over some Queries, and an interesting communication on "Humble Bees in Winter," by Mr. Sladen, till next week.*

Editorial, Notices, &c.

CHESHIRE B.K.A.

ANNUAL MEETING.

The first annual meeting of the Cheshire Bee-keepers' Association was held at Kendrick's Restaurant, Northgate-street, Chester, on Wednesday, February 14. The Rev. J. F. Buckler, M.A., presided. The attendance, owing, no doubt, to the severity of the weather, was not large. The annual report and balance-sheet, which had been circulated previously amongst the members, were adopted. The report stated that whereas the number of Cheshire members in the late Lancashire and Cheshire B.K.A. at the end of 1898 was 192, the new Association's list had the names of 323 donors and subscribers at the close of 1899. The Cheshire County Council declined to make a grant to the Association, but had provided for the delivery of seven lectures, which were undertaken by the Association's lecturers, the Rev. T. J. Evans and Mr. F. H. Taylor. Two successful shows of honey and bee-appliances had been held at Northwich and Birkenhead in connection with the Cheshire and the Birkenhead and Wirral Agricultural Societies respectively. Twenty-eight districts had been formed. Seven members were examined for the third-class experts' certificates, of whom five had been successful. The Association deeply regretted the loss of its President, the late Duke of Westminster, and of one of its Vice-Presidents, Mr. P. Speakman, C.A., whose deaths had occurred during the year.

A vote of thanks to the committee, officers, and hon. auditor having been passed, the meeting proceeded to consider the rules which had been prepared by the committee, and adopted them with some slight alterations. A vote of condolence with the Duchess of Westminster and the family of the late Duke was then passed.

It was resolved that the Duke of Westminster should be requested to accept the office of President for 1900, and that the retiring Vice-Presidents be re-elected. The following officers were appointed:—Treasurer, Mr. T. D. Schofield; secretary, Rev. E. Charley; librarian, Mr. F. H. Taylor; auditor, Mr. J. Tonge; delegates to the B.B.K.A., Rev. J. F. Buckler and Mr. T. D. Schofield; committee, Rev. J. F. Buckler (chairman), Revs. T. J. Evans and E. A. Hutton, Messrs. J. Bally, W. H. Forde, W. E. Little, J. Wynne, P. H. Rawson, J. Cotterill, W. Bradburn, G. Lambert, S. Woodward, H. Bell, E. P. Hinde, and J. Lyon Benson. Local honorary secretaries were also appointed.

A vote of thanks to the chairman closed the proceedings.

It may be added that in 1899 the expert, Mr. J. Gray, examined 1,359 stocks, of which 1,229 were in frame-hives and 130 in skeps.—E. CHARLEY, Hon. Sec. C.B.K.A.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of January, 1900, was £1,372.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

HANDLING BEES.

(*Concluded from page 69.*)

It is a well-known truism that if bees had no stings we should soon have no bees, and the fact that these little weapons are always "about" and ready for use is never lost sight of by the experienced bee-keeper. It trains him in ways of gentleness while handling his bees, and they show their appreciation of his method as surely as they will emphatically resent the rough usage of an unskilful operator. The learner must also bear in mind that there are times when outside influences—such as the weather, season, &c.—have so great an effect on the temper of bees that operations which may be carried through in comfort and without disturbance at one time, may, if persisted in at another, cause an upset in the apiary and be troublesome to a degree.

We may indicate in a general way how this peculiarity should be met, but experience and watchfulness are the best teachers. Besides, we may have occasion to refer to this variation in temper among bees in future papers, when treating of special operations, and why our bees are more amenable to handling at one time than at another; but, broadly speaking, it may be stated that when honey is being gathered freely in spring they are rarely troublesome, while on some hot days in summer (at times even though honey may be plentiful) they are quite jealous of interference and resent it strongly. Again, in autumn, when surplus honey is being removed, some days it can be done as easily as lifting a roof off, and on others, especially when all the bees are indoors and no work to do, they will not yield up their stores without a very forcible protest. On these occasions, if convenient, don't persist; defer the job till another day, when the bees may be as quiet as need be. With these few general observations we pass on to the actual work of opening hives and handling bees.

The different way in which an inexperienced bee-keeper proceeds in his first attempts at manipulating when contrasted with the method of an old hand at the work is, of course, very marked; but it is a hopeful sign when we see him sufficiently cautious and deliberate in his movements while betraying no nervous dread of the insect. Assuming that the ordinary smoker and smouldering fuel of some sort is used for quieting the bees, the first thing is to see that both smoker and fuel are in order—the former clean and the latter quite dry. Make a loose roll almost thick enough to fill

the tin cylinder of the smoker, and, after igniting, thrust the burning end in, adjust the nozzle, and work the bellows rapidly till a good volume of smoke issues. Set the smoker down, always with the nozzle pointing upwards, slip on the sleevelets, adjust the veil—see that it is drawn close round the neck—thrust the end of the elastic band, or of the tape, in between the vest-buttons, and you are ready to start work with no fear of taking harm except the trifling risk to the hands. We regard this latter risk as a positive advantage, as having the excellent effect of inducing greater care and caution in handling the frames and bees. If the day is a "quiet" one, give no smoke at the entrance to the hive before removing the roof. If the bees are a bit spiteful, a couple of puffs as a beginning may be necessary. Then quietly lift off the roof, causing no jar in doing it, and being careful not to kick the legs of the stand as a preliminary; lay the roof, end up, on the ground, and removing all quilts save the one next the frames, deposit them on the roof, and, with the smoker in one hand, with the other gently fold back the quilt, while puffing in a little smoke as the bees become exposed. After uncovering two or three top bars pause a moment to see how the bees are disposed to act, and give no more smoke than is needed to frighten and keep them down; set the smoker down on the folded-back edge of the quilt, and with a small screw-driver (or a common oyster-knife answers admirably) gently loosen the dummy, or whatever is used to gain lateral space, and lift it up right out of the hive. If there are any adhering bees, a downward jerk or two will shake them off back into the hive, and when cleared it is set down on the ground. The first frame is then loosened and drawn quietly apart from its neighbours towards the operator, or lifted up for examination as required. In raising frames the "lugs" or ends of the top bars are held between the fingers as in fig. 1,* and for inspection the frame is lifted to a level with the eyes, while held over the open hive. After examining one side, the comb is turned half round away from the operator; the farthest end of the top bar is then pulled over towards him while lowering the nearest hand, so that the comb is turned over *on its edge*, the reverse side being inspected while held bottom upwards. The same movements are gone through before returning the frame to the hive, and after a little practice even tender honey-laden combs may be examined, which would assuredly break away from the frame if turned round in any other way than on their edge or base. In lifting and returning frames no crushing of bees either beneath the frame ends or against the hive sides must occur, and while operating, an occasional puff of smoke may be needed just to keep the bees quiet. As each frame is examined it is returned to the hive by placing it close against the side next the operator, and when as many have been gone through as necessary, they are pushed up *en bloc* into their former position, and the dummy replaced. He only who succeeds in covering all up without killing or crushing a single bee completes the job as it should be done.

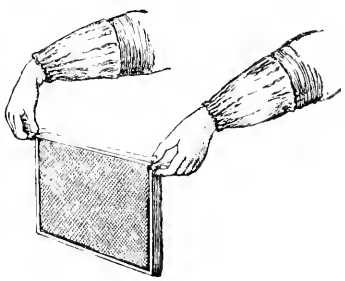


Fig. 1.

* We were not surprised on receiving a few inquiries regarding the extraordinary appearance presented by the illustration on page 68 in last week's issue (Fig. 1), and in order to account for its reappearance above we may briefly explain that the printer after removing the block from the page for his own purposes unwittingly replaced it *upside down*, and the mistake was not discovered till the BEE JOURNAL had been printed and issued beyond recall. To render the drawing intelligible we therefore re-insert it as above.—[EDS.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

HUMBLE-BEES IN WINTER.

[3910.] Perhaps you can spare room for a few words in reply to your correspondent "D. M. M.," who asks (on page 58 of your issue of February 8) what becomes of the humble-bee in winter?

As "D. M. M." correctly observes, colonies of humble-bees exist only in the summer, and they rapidly dwindle and perish as soon as the cool autumn days begin to make themselves felt. From this period on until the sun has again become fairly high in the following spring the humble-bee continues its existence solely through its young queens, which spend the winter in solitary confinement, having burrowed into the ground and there buried themselves to a depth of from 6 in. to a foot or more. They remain in a torpid condition until the spring, when they wake up and set to work to establish fresh colonies. The little heaps of fine, freshly-excavated earth formed by these queens as they go down into their winter quarters may often be seen on sheltered banks in the autumn, and there they stand

until washed away by rain. If one of these mounds of earth be scraped away, the mouth of a burrow will be revealed, and this, if followed up with a trowel, will be found to contain at its extremity a single queen humble-bee. In this manner I have unearthed queen humble-bees in a more or less torpid condition as early as August, while the temperature was still quite high.

I am afraid that I cannot solve the riddle of the heaps of dead and dying humble-bees found in the quilt of a bar-frame hive from the description given, beyond saying that I think these bees were probably workers and not queens, and that they must have been attracted into the hive-top, through the hole in the roof, by the smell of honey, and were somehow unable afterwards to get out again. "D. M. M." says that the species was *Bombus terrestris*. In my experience this species is unique among the humble-bees as being capable of developing, when it likes, the propensities of a bold and determined robber. Indeed, I had to give up keeping colonies of *B. terrestris* near my hives because the workers, when they discovered that feeding was going on, became so troublesome that it was next to impossible to get rid of them without killing them. They were worse than honey-bees, because they were as active during cold and wet weather, and even at dusk, as in the middle of a warm day.

At these times, when all law-abiding honey-gatherers consider it their bounden duty to remain quietly within doors, even at the risk of famine rations, the rascally workers of *Bombus terrestris* may often be seen actively engaged in the shady occupation of gathering aphis-honey from the under side of beech leaves. *Bombus terrestris* is evidently by nature of a particularly adventurous and investigating turn of mind, and most likely is no stranger to several illegitimate means of getting gain. These traits in a bee, it is needless to remark, may be turned to very bad account, because they are the best (or shall I say the worst?) material for the development of robbers of the most mischievous and desperate kind. These tendencies, coupled with its unparalleled untamable nature, which shows itself in its revengeful disposition when its nest is in the least disturbed, makes *Bombus terrestris* an undesirable pet with which to pursue the study of these interesting insects. It is sometimes amusing to notice how completely regardless humble-bees in general are of the usual terrors of a hive of honey-bees. A humble-bee will quietly settle on the alighting-board and deliberately walk in through the entrance of a populous hive, quite regardless of the threats and remonstrances of half-a dozen sentinels, who, unaccustomed to such indifferent treatment, are quite non-plussed, and meekly follow her inside the hive to see what she intends to do next. Nothing happens for a moment or two, and we are left to conjecture what sort of a reception our friend is having inside the armed citadel. A "warm" one, no doubt, for presently there is another stir at the entrance, and she marches out, accompanied by a large escort of surprised and excited workers, some of which are riding, doubled up, on her back, while others are trying to hang on to her wings and legs. Quite unconcerned she makes her way to the edge of the alighting-board, where she topples over on to the grass below, in the embrace of a few of the most determined of her foes, the rest of her suite returning into the hive. The exercise of a little "buzzification" in the grass compels the most tenacious of her adversaries to finally relax its hold, and she flies away apparently none the worse for her little adventure, for she is more likely than not to incur a similar one soon after. The absolute disregard that humble-bees show for the stinging powers of the honey-bee is exemplified by the fact that the inducement to force a passage into the hive seems not always to be the expectation of a reward of booty, but is often something much more trivial. I have known a queen humble-bee, while searching for a hole for its nest, to enter and re-enter a hive of bees in the manner described above. I have seen young workers on their first flight do the same thing just as persistently—evidently, in this case, mistaking the entrance for that of their own hive. Their cool audacity is certainly justified by the astonishing immunity from stings they seem to enjoy. I suppose it is because the "skin" of a humble-bee is hard (more correctly, the integument is chitinous), and if it takes the precaution, when attacked, to telescope up the rings or segments of the abdomen, there is hardly a vulnerable spot in its whole body.

The robber honey-bee has also learnt the value of this means of defence when in difficulties. Who has not seen her standing, ill at ease, all contracted and huddled up in the centre of a group of hostile examiners on the alighting-board of a hive that does not own her—her miserably awkward attitude amounting to an admission that she has no business to be there? And while she appears to be endeavouring to convince them, with the most wonderful diplomacy, that she is really their sister, she is secretly preparing for a dash either for spoil or for liberty!

How all our other wild bees pass the cold and flowerless months of winter would be a long tale to tell. Some are buried in a maze of insect tunnels in some old post or paling, or surrounded by the warm pith which lines the interior of a dead bramble stem, where they have chosen to remain in the full-fed larval or maggot stage during the long period of quiescence, and their time of flight will not come until late in the summer. Others—and by far the greater number—are passing their winter under the surface of the ground, and having been destined to spend their honey-moon amongst the flowers of spring, find it best to be prepared for it by being already in the

perfect state, and they require only the warm rays of the returning sun to wake them up and bring them out. A few, like the humble-bees, have already had a brief time of flight the previous autumn, and the females, having left their mates to perish of cold and hunger, have retreated to a hibernaculum from which they will issue in the spring to give birth to, and nourish, a new generation.—F. W. L. SLADEN, *Ringwould, Dover, February* 10.

BEE NOTES FROM ESSEX.

TITS AND BEES.

[3911.] Referring to the question of tits and bees now being discussed in the B.B.J., I am decidedly of opinion that tits do take live bees, otherwise where do they get the bees from which they take the stings (scraping them from their beaks on the flight-boards of the hives) when no dead bees have been brought from the hives for days or weeks? When my bees were nearer the house, tits were not so troublesome, but now they are the greatest enemies my bees have. I admire the nimble tits. I, too, would provide nesting places for them, as another of your correspondents does, but I would like to confine them in an aviary during the winter.

Honey-dew.—I kept some 1-lb. sections of the honey-dew stored by my bees in 1898 for over twelve months, and I found that, besides being quite wholesome, honey-dew keeps very well; in fact, I think it improved by keeping, losing some of the strong flavour that is usual with it.

Prices of Honey.—By advertising his honey, and quoting prices in recent numbers of the B.B.J., Mr. W. Woodley has himself put into practice what he preaches; but any good purpose that this may serve will not, I fear, be general, through the varying supplies and demands of different districts. I note that there are still a few—but very few, I am afraid—districts where 1s. a pound can be obtained for honey other than heather honey. I recently saw run honey advertised in a weekly newspaper at 6d. per pound, and, it was added, jars included. — WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

QUEEN INTRODUCTION.

[3912.] I thank you very much for the footnote on page 482 in B.B.J. of December 7, in which you point out that in Mr. Simmins' plan of direct introduction, the queen to be deposed is not removed two days before introducing an alien queen. I am sorry for the error, and apologise Mr. Simmins in that connection. No doubt the method of "direct introduction" is a very good one for queens obtained from short distance, especially for those of not much value, because such queens can commence ovipositing very shortly after introduction. I also believe it is a safe plan if properly done by careful persons. But I maintain that it is hazardous to queens just arrived from a long journey (1) because the alien queens cannot readily lose the scent contracted in the long journey (in mail bags); and (2) because their distressed condition at the time of introduction consequent on long confinement and the abnormal temperature to which they are exposed, soon tells the bees that there is a strange queen in their midst and therefore the slightest meddling by opening the hive may alarm the stranger queen, with the result that the bees suspect and "ball" her; and (3) because such queens cannot recommence ovipositing until they have had a few days' rest in the hive. It is, therefore, far preferable that the alien queen should during those few days remain caged in the hive for perfect protection and safe introduction, seeing that when such queens, if destroyed, are replaced at a much greater expense of time and money.

My object in placing these views before your readers is that they may avoid in future any recurrence of the losses which have come to my knowledge during the last season; these losses having, in my opinion, occurred mainly through keeping the colonies queenless for several days.

I am glad to infer from your editorial footnote that you share my opinion respecting the great risk incurred through keeping colonies queenless for the purpose of introducing to alien queens to the bees.—M. G. DERVISHIAN, *Nicosia, Cyprus, December* 26, 1899.

(*Correspondence continued on page* 76.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

It cannot be charged against Mr. Miller's apiary—seen along with its owner on next page—that it has the besetting fault (to an artistic eye) of "dull uniformity" attributed to some of our "Homes" pictures, for there are very few hives in it of exactly uniform shape. It is also refreshing to learn that our friend evidently thinks for himself (irrespective of the ideas of others) with regard to hives, associations, and "experts'" visits, and so, without conforming to his views, we may none the less respect them. Of himself he writes:—

"My apiary is situated at Castle Combe, about six miles from Chippenham, Wilts, and consisted at the time the picture was taken of sixteen stocks in frame hives of various sizes and shapes, mostly home made, but all designed to take the standard frame and all on the 'combination' principle, this being preferred on account of the greater freedom it gives when manipulation is necessary. I do not, however, believe in doing more in the way of manipulation than is absolutely necessary. I prefer to allow my bees, as far as possible, to manage their own domestic affairs—allowing them, in fact, a very liberal measure of 'local self-government'—but reserve to myself the control of their 'foreign affairs' in the shape of starting any new colonies. I do as little

autumn feeding as possible, preferring to winter bees on natural stores, and, except in the case of any particular stock which may be exceptionally short of stores, I prefer open-air feeding in spring—there being no other bees within a distance of nearly one mile of mine; the average amount of sugar used last season in preparing food being about 2½ lb. per hive. The season here has been a fairly good one and the quality of the honey excellent, my own harvest consisting of 1,252 lb. of honey, about half of which was sections. I may add that all is sold, but not at the fancy prices mentioned in your journals recently. In fact, there is little chance in this district to sell retail, while good sections of honey gathered in the season of '99 were marked in shop windows at Bath and Bristol at 9d. and 9½d. each. Strained honey has sold locally at 6d. per pound. My 'cake of wax' is always a small one, about 4 lb. or 5 lb. per year being all I am able to get; but I hardly ever break up any of the combs I use for extracting purposes, and find the old discarded combs from brood nests yield very little wax.

"Regarding my practical bee-experiences, which you invite me to send, I have kept bees for about twelve years and have found them exceedingly interesting and fairly profitable, I belong to no association, and have never had an 'expert' visit my apiary. What little knowledge I have on bees has been obtained from your journals, or is the result of experience. I have a very distinct recollection of my first attempt at driving bees, which operation I attempted from a few verbal instructions given by a friend. The bees were in an old box about 12 in. square, and having bought eight or nine old frames, I was anxious to put the bees on them. The job was got through all right, and bearing in mind the fact of my never having seen anything of the sort done, I have always felt a bit proud of my success. I have, however, done a good deal of 'driving' since, and nearly always find a couple of driven stocks when united and fed up fairly early in autumn, come out strong in spring and do well during their first season. I also recollect taking one of my first swarms under somewhat difficult conditions. The bees clustered on an overhanging branch of a tall elm tree, and I found it impossible to get a ladder anywhere near them. I was, however, very loth to lose the swarm, so determined to try what could be done with a rifle bullet. I cut the branch off with the third shot, and the whole cluster fell in a heap on a large sheet spread ready to receive them; I lost no time in setting a skep over the bees, and soon had them comfortably settled. It will be noticed in photo that several of my hives are very large. These contain three stocks each, and I find this a very good way to make hives, as the trouble and expense is not so great as it would be for three single hives, and I am certain the bees winter better in them, as no

MR. EDGAR S. MILLER'S APIARY, CASTLE COMBE, CHIPPENHAM, WILTS.

doubt they help each other a little with warmth in early spring when breeding starts.

"I always use a lot of packing on top of frames and between hive and outer case in winter, and rarely lose stocks in wintering. The hives are as seen, placed very close together, my room being limited; but, notwithstanding this, I rarely have any trouble with robbing. I keep the alighting boards of the hives painted different colours, believing that this helps the bees to go straight to their own hive. My bees are, I think, fairly pure English Blacks. I have never cared to experiment with any foreign races."

CORRESPONDENCE.

(*Continued from page* 74.)

NOTES FROM WYCHWOOD FOREST.

LOSS OF BEES THROUGH FLOODS—SELLING HONEY.

[3913.] I saw in Saturday's local paper that a bee-keeper has lost sixteen stocks of bees through the hives being immersed or swept away by the flood. It thus follows that, in locating bees, one needs not only to provide shelter from the biting blast and note the aspect for hives so that they catch the morning sun, but to make sure the spot selected is high and dry. It must be dreadful to a bee-man to find some morning that his hives have gone sailing off on the flood, to say nothing of the pecuniary loss.

After the spell of wintry weather, my bees were out on Friday, the 16th, on pleasure bent, gaily humming in the warm sunshine so agreeable to them (and to their owner) after the snow and bitter winds of the last week or so. But it was only too easy to see that the pleasure outing in many cases ended fatally, the snow and the cold earth giving a death chill to those unfortunate bees who happened to alight upon it. How like us mortals, when in the pursuit of pleasure we venture so much, and so far, under wrong conditions, and find, when too late, our moments of happiness have been too dearly purchased!

I have been glad to read in B.J. lately that many are making 10d. to 1s. per lb. for their honey; but on the other hand it seems there are plenty who for various reasons are not nearly so fortunate, and I think there is no good done by publishing the *lowest* prices. The fact of our reading or hearing that some one has bought or sold honey at the *lowest* price ever paid for the article is no guide as to its *real worth*. Some people sell their surplus at any price just to get it off their hands, with the least bother and trouble to themselves, only keeping bees for a hobby, and ignoring the poor fellow who is trying to sell his honey to help to keep the wolf from the door. Others lose their heads, it seems, when there is a glut, and the dealer buys from them at a ridiculous price, to sell at a good profit to himself. Then jealousy, it is to be feared, at times impels some folk to sell at cutting prices to spoil a young hand's local trade; but this is indeed "cutting off one's nose to spite one's face" with a vengeance, and can be ignored, though not pleasant, whilst it lasts, to the man who is feeling his way and is anxious to do right. So there is no need to run round crying, "Keeping bees does not pay!" for I think we can rest assured that, so long as John Bull and his wife and little folk want honey to eat, a good sample—clean, and every way presentable—will always fetch a fair price that will pay the producer to place it on the market.—JOHN KIBBLE, *Charlbury, Feb.* 19.

AN OBSERVATORY HIVE.

(*Concluded from page* 68.)

[3914] Every now and then a bee will be seen to run round and round in an excited manner, stopping occasionally to shake itself like a dog just out of the water. It will continue to do this for several minutes, and the effect is very comical, for the proceeding never fails to excite the interest of the neighbouring bees. They follow the excited worker round and round, rushing in when it leaves off shaking itself and scuttling away when it begins again. It has all the appearance of a game of play. The shaking seems to be an endeavour to get rid of pollen dust, which probably obstructs the spiracles, for those bees who have obviously been after pollen are most addicted to it. When, as often happens, the shaking bee's hind legs are loaded with pollen, the bright coloured lumps seem to be irresistible to the bees that are "chiveying." They make for the hind legs every time. But the odd thing is that when the bee at last desists from its antics, the others cease at once to take any interest in it. The pollen bearer then begins to roam about the combs, with no apparent system. It wanders to and fro, and after traversing several combs very likely deposits its load in a cell which it passed by long before. The unloading is quickly done without assistance. The pollen is tumbled in and the bee takes no further notice of it. I never once saw a bee attempt to pack its own pollen.

To watch the young bees biting their way through the cell capping and finally struggling through is very interesting. Seldom do they get any outside help. A passing bee may give a nibble at the comb on its way, but very rarely. On the other hand it very likely stands on the poor young thing's head and keeps its back. But out the bedraggled little creature comes, and the sudden plunge into the busy throng of hive life does not seem in the least to disconcert it. It smooths its damp hairs down, makes its way briskly to a honey cell or puts out its tongue for food to the nearest bee and is soon indistinguishable amongst the crowd.

My observatory hive was double glazed, and had wooden shutters lined with baize, so that it never got to be cold; but perhaps owing to its position in a sitting-room the temperature varied a good deal, ranging as a rule from 74 deg. to 84 deg. F. Above the latter temperature a good deal of fanning was started, and once, when under some excitement, the heat rose to 92 deg., the bees seemed uncomfortable. Mr. Doolittle, in *Gleanings*, quoted in the BRITISH BEE JOURNAL of October 19, 1899, discusses the question of the heat necessary for brood rearing. He considers 92 deg. as "the lowest point consistent with successful brood-rearing," and scouts the idea that bees can be reared at a temperature of 60 deg. From the general run of Mr. Doolittle's figures I take it that he means Fahrenheit. Now in autumn, when, as above stated, I started fresh laying of eggs by feeding, I had the ill-luck to break one of the outside sheets of glass. As a result the temperature was lowered, and in the day time stood more than once at 64 deg. It is probable that in the night it went lower. All this time egg laying went on, and without exception the brood hatched out successfully. Hence I think that Mr. Doolittle, admirable guide as he is, is for once in error.

Stimulated by the unexpected food supply, the bees set to work foraging, and propolis being just then plentiful it was brought in in wild profusion. Bees have small sense of proportion; they like to be on the safe side. Yet if a kee-keeper must often lament a good comb ruined from his point of view by having been crammed with pollen, he may console himself with the thought that the hand-to-mouth policy which would suit him very well in the matter of pollen and propolis, would be very disastrous if carried out consistently and applied to honey. The propolis came in packed like pollen in the workers' collecting baskets. But as it is not stored in cells, the load was not so easily to be got rid of. This bee glue is collected in a soft sticky state, and I do not know how the bees manage to pack their baskets with it. It is evidently difficult to handle, for the loaded bee does not, as far as I can see, attempt to deal with his own load. He walks about the comb, offering, so to speak, his wares, and from time to time a bee bites a portion of it off with his mandibles and chews it up as if it were a wax scale, before depositing it in what it deems a suitable quarter. I have seen a bee so loaded itself bite off a fragment from another bee's load, and walk off chewing up its mouthful. The sticky propolis soon becomes a drug in the market, and in the end a good deal of it becomes smeared about the hive in a fashion familiar to every bee-keeper.

The question of how to mark bees has lately been touched upon in the JOURNAL. Although I marked a good many with both oil and water-colour paints, I was not successful. In every case either the colour wore off or was got rid of so that the bee was hardly noticeable, or the bee disappeared altogether. I have since thought that there might be some dye that would take effect on chitine, and at the same time would not be seriously prejudicial to the bee, as we know that a bee may be immersed in various fluids for a considerable time and yet quite recover. It is a very important point in observation and I should be glad of any instruction.

There need be no fear as to dead bees accumulating in an observatory hive; the bees keep it wonderfully free. Probably under healthy conditions very few bees return to a hive to die. Their instinct tells them that they would be refused admittance or ruthlessly ejected. It is just as well; for the want of combination noticeable in many branches of hive economy is very apparent here. Even after making due allowance for the peculiar construction of an observatory hive, from which, after all, the bees are continually passing in and out, the way in which a corpse is dealt with remains remarkable. A worker will be seen laboriously dragging its dead comrade up the glass and along the comb towards the top of the hive. On the way, another worker seizes a wing and pulls hard sideways. A third is now attracted and catches hold of a leg, striving to drag the body in another direction. The tug of war goes on merrily. Presently the second bee gets tired and lets go. One or two more bees take a hand. Then the first remembers another job it had in hand and goes off to do it. After a bit they all get tired and the corpse drops to the bottom of the hive. All you can say is that in the end the dead body will surely be carried out.

It must be admitted that this is disappointing. The master bee-keepers of a bygone time used to write about the "Government of Bees." They told us of the king, the captains, the common folk, and the mysterious drones. We may still read about the coloured emblems that the captains carried on their heads; we may gaze upon the woodcuts which show specimens of the grades of the army, shorn, alas! of one pair of legs, but bravely bearing the crown, emblems, and titles. And, sitting in front of our modern observatory hive, we search for this brave army, and would fain study its marvellous discipline.

It may not be. I had hoped that by watching carefully the movements of the fanners, by observing when they took their post and how they were relieved, I should perhaps get some clue to an organised system. I found, however, that the "fanners" came and went as they thought fit. One would fan for a minute or two and pass away, while another would stick to it for more than half-an-hour. A third would break off a minute or two and then begin again. On leaving off, one would go back into the hive and another pass away out of it. And all the time a stream of bees passing in and out with no recognised gangway, so that the poor fanners got bumped on every

side, and had to shift their position accordingly. Inside the hive I had thought to find fanners posted in suitable places, but as far as I could see a bee would start fanning just where it happened to be, and leave off just when it thought fit. The only action that I could detect which suggested organisation was in connection with packing the cells with pollen. As said above, the pollen-laden worker thrusts off its load into a cell and takes no further notice of it, but, as a rule, at once, and always within a minute or two, a youngish bee turns up and begins to back the pollen, ramming it carefully down with its head. This was very interesting.

It seems to me that the way in which hive work is got through with some appearance of order and regularity must be explained somewhat as follows: The race of bees, including wild varieties as well as our own honey-bee, is born with a capacity for work almost amounting to a longing for it. Nature, in its process of evolution, has determined that at certain periods of its life a worker bee shall be fitted for certain departments, and to a certain extent for those only, of the hive work. Thus by its glandular development a young bee is fitted to feed the larvæ and probably the mother bee. Accordingly, we find young bees so occupied, and as they are not yet very strong upon the wing, they pack the pollen and perhaps arrange the placing of honey in suitable cells. At a certain age bees are probably best able to produce wax. Again, while their wings are sound and yet untorn they are best suited for the vigorous ventilating work that we see them undertaking.

In a honey-flow, every bee that can fly seems to go out foraging. But at a certain age the worker becomes physically incapable of nurse work, and from that time it confines itself to outdoor foraging, until at length it dies—hardworking to the last—in harness.

Many hands make light work, and the colony takes care that the mother shall keep up the population. Instinct quickens every bee to busy itself in the particular work for which it is fitted, and thus, though not always in the quickest or most economical fashion, all the work of the hive is got through with a general outward appearance of system, suggesting government. I believe, however, that if nature could forget herself for a moment and allow a bee to be born thoroughly idle, that bee could live its life out in the hive in perfect indolence. In all their work the bees are much assisted by a power of communicating intelligence which, although obvious to beekeepers, is not yet thoroughly understood. The most marvellous feature in bee life, and one which will never fail to command admiration, is that thorough good temper and absence of quarrelling which uniformly reigns throughout a hive. In this respect bees must always remain a pattern to other communities.

I cannot too strongly recommend every beekeeper who can afford it to provide himself with an observatory hive. The best must perforce be costly, for a practical knowledge of bee-keeping, combined with great skill in cabinet-making, are necessary for their production. On the other hand, a fairly clever carpenter who has had the chance of inspecting a well-made hive could, no doubt, turn out one which, for want of a better, might well serve his turn. My own hive is, at the present moment, in the hands of its maker, Mr. James Lee, whose address will be found in this JOURNAL, and who, I feel sure, will willingly show it and explain its virtues. The hive is undergoing certain alterations which a season's experience has proved to be desirable.

An observatory hive will be always a joy to its fortunate owner. It will provide occupation for his leisure moments and constant food for thought. He should, however, remember that a year or two of observation will not warrant him in drawing any certain conclusions on matters not yet determined. A lengthy period of observation, and that with different races of bees, followed by a patient comparison of results, must always precede any deductions that can claim to be scientific. It is with a full sense of these limitations that the memories of one season with an observatory hive have been jotted down by—SOUTH DEVON ENTHUSIAST.

Queries and Replies.

[2336.] *Queen Mating — Spacing Frames for Promoting Superabundant Drones.*—Would you kindly give me the benefit of your assistance on the following points? :—1. I see it stated on page 8 of "Guide-Book" that a Queen after fertilisation, "ordinarily never afterwards leaves the hive, except when accompanying a first swarm." Now, if I put the first swarm from stock A (which is headed by old Queen) into hive B, does the *same* Queen head first swarm from this latter hive? 2. When ought the production of drone comb to be prevented? 3. In starting a new hive, what proportion of worker to drone foundation should be inserted? — R. D. CAMPBELL, *Waddridge, Cornwall.*

REPLY.—1. Yes. 2. The over-production of drone comb is prevented from the outset of comb-building. 3. Only worker-cell foundation is used in brood-chambers, and if full sheets are used the need for spacing frames at the 1¼ in. distance apart is done away with. A few drone cells will be built in the space allowed between lower edges of the sheet of foundation and bottom bars of frames. In this way the natural instinct which inclines the bees to build drone-cells is gratified. On the other hand, if only narrow strips of foundation be used when hiving bees, the frames should be spaced 1¼ in. apart if it is

desired to restrict the number of drone-cells in the hive. When the frames are nearly all filled with worker-combs, no time should be lost in spacing the frames at the normal distance apart by sliding back the metal ends to the ordinary or usual position.

2337.] *Ventilating Hives in Summer and for Journeying to the Heather.*—I see in Lee & Son's catalogue a hive called the "Heather Hive," which has an opening in the floor-board 6 in. by 5 in., the opening being covered with perforated zinc. It is claimed that when the "Shutter" fitted to the underside of that opening is withdrawn from behind in summer, a current of air will be admitted into the hive, and providing ventilation when taking hives to the moors. Now, as I am going to make a hive shortly on this plan, I would ask this question: "Do you not think that the bees will fill up the perforations in the zinc with propolis so that there will be no chance of air getting through? — Jno. H. Willcox, *Carlisle February* 14.

Reply.—Bees do not use propolis for stopping up holes for ventilation in summer; it is only at seasons when cold draughts are unwelcome to them that any such fears as you express need be entertained. With regard to the use of the ventilating arrangement for use when taking hives to the heather, the covering "shutter" withdrawn for the journey is replaced after the bees have been safely located at the moor and are settled down quietly.

2338.] *Transferring from Skeps to Frame Hives.*—I have four strong stocks of bees in skeps, bought last autumn, and you would greatly oblige me in answering the following question:—1. When and how to transfer them into bar-frame hives which are fully filled and wired with foundation? 2. The skeps are now on a plank raised from the ground and 2 ft. apart; when transferred, could they be put 3 ft. apart in the same order? 3. The bees are near a row of twelve flowering limes, and surrounded by fruit nurseries; could I expect a fair yield of surplus honey this season, and are they likely to fill more than one super fully fitted with foundation? 4. Kindly give me the earliest date that they can be transferred? 5. When can I put supers on with bees treated as above? 6. I have got a Porter Bee Escape, but do not know how to fix it on a board: could you explain this?—W. Shone, *Chester, Feb.* 16.

Reply.—1. Carefully nurse the skeps in the coming spring by seeing that they do not run short of food or lack protection from cold and wet. By this means have the bees as forward as possible in the month of April, at which time, if weather be favourable, prepare for setting the skeps above the top bars of frame hives, and allowing the bees to transfer themselves to the frames below when room is needed for extending the brood nest. We have already given particulars of further procedure, and will repeat the *modus* later on when the subject of transferring is more seasonable than at present. 2. The frame hives, prepared as stated, should be placed as near as can be to the stands whereon the skeps now are. Just in rear of the "plank" mentioned will be the best position, and if the skeps are moved a foot further apart beforehand, the frame hives can be placed immediately in the rear. 3. We cannot, of course, gauge the amount of surplus honey the bees will gather, so much depending on the season, but it is quite reasonable to hope for a fair return of surplus. 4. The date is given in reply to first query. 5. The condition of the bees and weather at the time alone can decide this point. 6. An aperture must be cut in board large enough to allow the "escape," when pushed in, to lie flat on the board with the circular entrance in tin uppermost.

[2339.] *A Novice's Queries on Comb Foundation and Using Glucose as Bee Food.*—I bought a stock of bees last August, and, being a novice, I should be glad if you would answer the following questions through your Queries:—1. What is the difference between brood and "weed" foundation? 2. In fitting foundation in frames of brood-chamber, is it necessary to use part worker and part drone cell foundation? 3. Is the enclosed sample of honey pure, and can you tell the source from which it was gathered? 4. I enclose a piece of American glucose (grape sugar) in the solid form as exported. Would this do for feeding bees in place of soft candy made from cane sugar? 5. I am afraid my bees will soon require more food. Could I insert candy underneath quilt without using a smoker at this season? With respect to questions 1 and 2, I may say I have searched the "Guide Book" through but cannot find the information required.—T. M. Lowcock, *Sheffield, February* 14.

Reply.—1. There is no analogy between the words "brood" and "weed" as used in your query. Brood foundation is the kind used in brood nests as distinguished from the much thinner and better quality specially made for use by the bees when storing honey in surplus chambers. On the other hand, "weed" foundation takes its name from an American gentleman (Mr. Weed), who invented the new and improved process of sheeting by which it is manufactured. 2. Only worker cell foundation is used in brood chambers; indeed, it may be said that drone cell foundation is not in general use even for surplus chambers. 3. The actual purity of honey can only be safely decided by analysis, but we see no reason to suppose that the sample sent is adulterated. It is not a high-class honey, and has been gathered from mixed sources. 4. Glucose is not only entirely unfit for bee food in any shape, but we doubt very much if bees would touch it in the form sent. The very name of glucose used in connection

with bees is hateful to all honest bee-keepers, by whom it is regarded only as the adulterant sometimes fraudulently used by unscrupulous persons in contact with honey gathered by bees. 5. If, as we suppose, your experience of uncovering frames is very limited, it will be safer to use a little smoke if the bees are active.

[2340.] *Remedial Uses for Honey.*—I am sending you a sample of a sweetmeat I have made entirely of honey, flavoured with horehound, for a cough, thinking it would be a more convenient form of taking honey, as any one could have a few of the tabloids in their pocket and take as required. Many people cannot take a spoonful of honey, whereas like this they could take any quantity. I shall be glad if you will kindly give me your opinion of them. I have sent some to a person suffering with a bad cough after an attack of influenza and hope to have a favourable report shortly. I have also been successful in making honey-soap. In every case it has been an unfailing remedy for chapped hands, &c.—JUDITH, *Oxon, February 5.*

REPLY.—Regarding the "sweetmeat" received, it is in very convenient form for taking honey and horehound—a combination well known to be useful as a remedy for coughs, colds, &c. We also quite concur in our correspondent's view that persons who cannot take honey alone in its natural form will have no difficulty with the cough-drops sent, for they are agreeable to take. We should be very pleased to print particulars of the method followed in making the sweetmeat, and also the "honey-soap" alluded to, for the benefit of readers desirous of trying these home-made remedies if our correspondent will forward the same for publication.

Echoes from the Hives.

Quatford, Shropshire, February 15.—The sun shone warm and powerful here yesterday afternoon on some 6 in. of snow which had fallen during the previous night, and I have no doubt many of our little favourites were tempted out by the reflected sunshine to take a fatal "airing." While the snow still lies deep and the weather prophets tell us there is "more to come," I would offer a seasonable hint by impressing upon all who are young or inexperienced in the craft the great importance of shading the hive entrances (a slanting board answers the purpose best) whenever there is any snow upon the ground, and I was grieved to hear last evening that at an apiary near, where this precaution had been omitted, the snow for many yards in the vicinity of the hives was thickly dotted with benumbed bees which had been enticed out by the bright hot glare of the sun shining directly in at the doorways, only to drop to rise no more, owing to the too cold atmosphere in the open. Any loss of bee life just at this season of the year, when it can be at least afforded, and may possibly be avoided, is, I think, much to be regretted. While upon this subject I venture another suggestion as to the desirability of again satisfying one's self as to the safety of colonies so far as sufficient stores and ample wraps are concerned. We are having a very cold snap all over the kingdom (the thermometer one night last week registered 1 deg. below zero), and our English winter has every sign of being long drawn out. Those early harbingers of spring and welcome sources of needed pollen—the crocus, and the willow catkin, or palm—seem particularly late, hereabouts certainly, so that a cake of good candy and an extra quilt may be profitable generosity to the bees in this third week of February.—J. EDMUND RODEN.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. H. (Slough). — *Melting Granulated Honey in Sections.*—1. To liquefy honey and separate it from the wax, slice the combs into an earthenware jar and place the latter in a pan with a couple of pieces of wood below to raise the jar a little and allow water to pass underneath. Fill the pan with sufficient water, then heat till the wax melts and rises to surface of the now liquefied honey. The whole is then allowed to cool, when the wax can be lifted off in a cake. If a solar wax-extractor is available—or a substitute for this appliance can be improvised—combs of granulated honey need only to be subjected to the sun's rays in order to separate the wax from the honey when cooled as before. 2. All granulated honey must be liquefied before using as bee-food.

O. G. (North Wales).—*Honey Samples.*—The sample received is from mixed sources, no predominant one being sufficiently pronounced to distinguish it. It is of excellent consistency, good colour, and very fine in flavour.

HAMPSHIRE, NORTH.—Sample No. 1 is a capital honey, good on all points; and if carefully heated in water, to remove the signs of granulation now beginning to show, it would make a very good sample for the show-bench. Nos. 2 and 3 are not so good in quality and would deteriorate No. 1 if mixed with the latter. No. 2 has granulated solid since it reached our hands, but No. 3 still keeps liquid owing to its not being well ripened.

Editorial, Notices, &c.

ESSEX BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Essex Bee-keepers' Association was held at the Devonshire Hotel, Bishopsgate-street, London, on Friday, February 23, at which there was a small attendance. The report for 1899 and statement of accounts, which had been sent to the members previously, were adopted. The report stated that the Association continues to make steady progress, forty-eight new members having joined during the year, very few subscriptions remain unpaid, and there is now a balance on the right side of the account. Three members presented themselves for examination for the third-class experts' certificates of the B.B.K.A., all of whom were successful. Prizes and certificates were awarded to members at nine local flower shows held in the county, and the committee give notice that a small money prize and a certificate will be offered in future in addition for the best 1 lb. jar of extracted honey, exhibited by members at any local flower show held in the county, under certain conditions. The honey labels of the Association were in greater demand during the past season, which may be taken as an indication of a good yield of honey and a sign that they are becoming more appreciated by both buyers and sellers, thus effecting a useful purpose. The Association's bee-tent was in use during the year at the Essex Agricultural Society's Show at Epping and at flower shows at Chingford, Waltham Abbey, Chigwell, and Loughton respectively. The experts' report stated that 271 members have been visited in the spring, owning 1,632 stocks of bees, and 260 in the autumn, owning 1,783 stocks. In the spring seventy-four stocks affected with foul brood were found in fourteen districts, and in the autumn, owing to remedial measures having been taken, only twenty-nine affected stocks were found in twelve districts. The Countess of Warwick was re-elected President, and the officers were re-appointed. The following gentlemen constitute the Committee elected for 1900:—Messrs. G. R. Alder, L. Belsham, F. G. Kimber, G. F. O'Flahertie, O. Puck, F. Swarder, A. W. Salmon, and Dr. Symmons.—W. J. SHEPPARD, Hon. Sec., *Chingford*.

SPRING MANAGEMENT.

In response to requests we are very pleased to re-write and bring up-to-date another "Editorial" from a former issue as follows:—

"STIMULATING" OR "BUILDING UP."—The very essence of the "art of bee-keeping" consists in being able to bring a colony up to full working strength so early in the summer as to be ready for the honey-flow when it comes. In saying this much, we do not lose sight of the fact that "seasons" in different localities vary as widely as the times of ripening in different kinds of fruits and vegetables; and it is just as necessary for the bee-keeper to make himself acquainted with the honey-producing flora of his district as for the gardener to "time" the sowing of his seeds.

The circumstances under which the writer finds himself to-day furnish a very apt personal illustration of this fact. For nearly a quarter of a century we had kept our bees in one locality—indeed, in the same garden—and could tell to a few days when the bees would begin storing, because of our intimate knowledge of what was growing within the whole radius of the bees' foraging-ground. Consequently no attempt was made to start early, and so prepare and force on our army of workers for labouring on a source of supply which did not exist. Such a course would have been like hurrying to get up steam for starting the printing machine before the type was set. Full populations by mid-June was what we worked for in past days.

All this, however, is now changed, and we find ourselves and our bees located in the South of England, a county (Kent) entirely different in character from that we have left. Here plums, damsons, currants, and such-like are grown in fruit-gardens the extent of which was a revelation to us; while whole fields of raspberries and strawberries surround us on every side, so that we are "in" for quite a new condition of things, and it would be the height of folly to go on in the old way. We shall be removing surplus in the coming early summer-time before the bees in Cheshire (our former location) have started working on the clover, just as sure as the honey harvest here will be over and ended while bees in more northernly apiaries will be gathering fast.

This puts the matter in a plain light, we hope, as proving the necessity for the bee-keeper "knowing his ground;" and when he has gained this knowledge by experience and observation, he will realise the difficulty we have in replying to the oft-repeated but very vague question, "When must I begin to stimulate?" A stereotyped, and withal a very sound, reply is usually given, viz., "Six weeks before the honey-flow;" but we would like to be able to add, "Don't stimulate at all;" for happy is the man whose stocks do not need it; and not seldom does it happen that the inexperienced and over-anxious bee-keeper actually retards the progress of a thriving colony by his endeavours to help it on. Another point may be noted here for the information of those who wish to prevent swarming, and that is, stimulation in spring has a tendency to create in the bees a desire to swarm, and adds to the difficulties of preventing it.

"Right here"—to borrow an Americanism—we would say, if a stock of bees is seen to be working vigorously, with an ever-increasing population—and it needs no great amount of

bee-knowledge to judge of this without the necessity for opening the hive—leave that colony severely alone. If food is safe, and you know that the combs are in good condition, don't tinker with it, don't bother it, and *don't stimulate* it. The fact is, the condition of things inside such a hive are as naturally stimulating as things can be, and to interfere is to do harm.

On the other hand, it is of very great importance sometimes, especially where the bees are required to be strong quite early in the year, to do something by way of creating a mild form of excitement among the bees. This is done by gentle continuous feeding, forestalling the natural income, as it were, and thus raising the temperature to a degree which stimulates the queen to increased egg-laying, and results in a considerable enlargement of the brood-nest. The point we would ask readers to bear in mind is to see that nothing is done in early spring to lower the temperature of the hive when disturbing the quilts for the purpose of feeding. Warm wrappings must be added to, not lessened, at this time; and if a colony is only of medium strength, it will also assist it to contract the hive by removing a few combs, to be returned later on, when the bees are seen to need room. A considerable number of stocks in most apiaries will so surely be found requiring attention after the winter is over, that we must not allow readers to suppose that "stimulating" or "building up" of colonies is the exception rather than the rule. We wish it was so; but in the face of the facts our desire is to put forth a restraining hand, to assure them that there is no need to begin eagerly stimulating all and sundry, whether they need it or not. It will not be difficult to grasp our idea of good management when we say it is the stocks which *don't* "get on" that require most attention in endeavouring to make them "move" by supplying something they lack. Those that are safe and thriving will need no interference. A prevalent but rather mistaken impression prevails among inexperienced bee-men that "a colony of bees may be built up to full working strength in six weeks" by the simple process of stimulative feeding. The numbers who have written us after trying this experiment and failing testify to the unreliability of the notion in its strictly literal sense. In fact, some colonies cannot be built up to full working strength at all, and to suppose that weak stocks—without any reference to the inherent cause of their weakness—can be so built up is quite an error. Only hives with bees full of vitality, and waiting but for the natural stimulus arising from partaking of freshly-gathered pollen, or that just exposed in the combs by the consumption of its thin covering of honey, can be so aided by stimulating as to produce the desired effect. The slow continuous feeding apparently gives them the impression that summer is come—and no doubt breeding increases largely under its influence.

Spring Dwindling.—There can be no doubt that badly prepared and unwholesome food and cold damp hives are at the bottom of the mysterious and unaccountable "dwindling" which troubles some bee-keepers in spring. The bees have all the heart knocked out of them by living on food which, though it might do no harm in warm "flying" weather, so lowers their vitality in the long and close confinement of the winter, that they can make no headway at all. A few eggs are laid, and are allowed by the poor debilitated bees to dry up and wither away, instead of hatching them out. Bees are continually dying off or being lost through lack of strength to return to the hive against the force of a cold spring breeze. The few young ones which do hatch are too few to replace those dropping off, and so the population diminishes, dwindling away till the outside warmth of the summer weather assists the bees in hatching the brood, and perhaps after the season is well over the stock becomes just strong enough to carry on for another year. Meanwhile, it is neither of "use nor ornament." The question is, "What is the remedy?" And our reply is, "See to the food." Even the hives are secondary in importance to this. The quality of the honey gathered in districts where "spring dwindling" is periodical and chronic may have something to do with it, and in this case we advise wintering entirely on good cane-sugar syrup, and an avoidance of nitrogenous food altogether for winter, if possible. The less pollen bees consume in winter, the less occasion for their taking cleansing flights; and this is most important, as all will admit. Syrup made of raw sugar is also very bad for the bees. Some of the samples forwarded to us—after the mischief had been done—would be little better than treacle for syrup-making. No wonder it produced dysentery and general weakness, which are the great causes of spring dwindling. A pint of bright, strong, healthy bees headed by a young queen will often work up into a good stock, while a peck of weakly ones will fail and droop through sheer inability to obey the demand nature makes on their energies in hatching and rearing brood in spring. On the other hand if the queen be old and failing, neither healthy bees nor good food will avail against "spring dwindling."

Spring Overhauling.—While desiring to restrain the anxious fingers "itching" to begin manipulating as soon as the spring warmth brings the bees forth and their ever-tuneful hum is heard, we must emphatically urge the absolute necessity for a thorough overhaul of every stock in the apiary regarding which the least uncertainty is felt. To say that *every* colony must be examined carefully is contrary to the views we have already expressed. Good ones need no more than a glance beneath the quilts to make it certain they *are* good, and to note them as such. All

the rest must be gone through, and careful notes of their condition taken for future reference.

It is most important that this be done for many reasons, but, among others, it enables us to consider and perfect our future arrangements with regard to each colony quietly from these notes indoors, without the need for constantly disturbing the bees in realising what is required for meeting the necessities of individual cases. The time for making this examination will, of course, be regulated by the weather; when this is favourable, and the bees are able not only to "turn out," but to go off foraging for pollen, a start is made. Beginning at one end of the apiary (say of twelve hives) examine No. 1; next go to No. 6; then return to No. 2, and so on. Thus, as each stock is examined, the bees have time to settle down quietly before the hive immediately adjoining is opened; and there is less "mixing up" of the flying bees during the excitement generally caused by the first "overhaul" of the year.

With a full report of the internal condition of every stock in the apiary in his possession, the bee-keeper is saved a world of worry and trouble. He can just do the right thing required, while leaving what would be in too many cases the wrong thing undone. Colonies found queenless are dealt with by uniting, combs and food seen to, and that inestimable boon to a starving stock, a cake of soft, warm candy, administered where wanted. Once the bees are started on *properly made* soft candy, given below the quilts in spring, and the supply regularly kept up, they seem—according to our experience—to be stimulated and kept going better than in any other way.

Soft Bee-Candy.—Before giving directions for making this, it may be well here to say a word regarding the prevailing uncertainty as to what is meant by "soft bee-candy." It should be quite firm and stiff, so as to bear its own weight without gradually falling down between the top bars and yet of such a consistency that it becomes "buttery"—to coin a word—when its surface is rubbed with the finger-nail, just as a piece of butter will if treated in the same way.

Candy may be made "short" in the grain, so as to break easily; but dry and "crumbly," without being "stone hard." This kind, however is quite unsuited for bee-food in spring. The secret of making soft bee-candy consists first in not overboiling, and second in keeping the mixture constantly stirred while cooling off until it turns white in colour as it stiffens. This process of working gives it the soft, creamy character—like stiff chocolate cream—which constitutes good candy for bees' use.

A good soft candy can be produced by closely adhering to the following instructions:—Use preferably a brass jelly or preserve pan. Put in ten pounds of refined cane-sugar, two pints imperial of cold water, and a teaspoonful of cream of tartar. Set on a brisk fire, and stir gently till the sugar is all melted. When it boils the pan may be withdrawn a little from the fire, when the foamy boil will settle down to a clear crackling one. This boiling should only occupy a few minutes. Now try a drop, let fall on a cold surface, withdrawing the pan from the fire in the meantime. If the drop at once begins to set so that in a few seconds it will draw out as a thread when touched with the finger, the mass is cooked enough. If not, boil half a minute longer and try again. If right move the pan from the fire, and set it in a trough of cold water. It may be left there for a few minutes while the moulds are being set ready, each with a thin sheet of paper rather larger than the mould laid in. Returning to the pan, commence and continue to stir briskly until the mass begins first to turn white in colour from incipient granulation and then to thicken to the consistency of thin porridge. Then pour into the moulds, warming any remainder slightly to get it to leave the pan. This cooling and stirring process should take about fifteen minutes more, and this finishes the whole process, with the result that we have 12 lb. of candy from 10 lb. of sugar. When quite cold the candy should, as we have said, still be soft enough to be easily scratched into with the finger nail, and melt in the mouth with a soft grain. Invert the cakes over the cluster of bees with the paper left on, and cover up warmly. This may he done while they are still somewhat warm.

Adding to Warm Wrappings.—This is a point much neglected by careless bee-keepers, yet it is of considerable importance in early spring. At that time warmth means increase of breeding, and when, in giving a cake of candy, the quilts are disturbed and disarranged, then carelessly replaced, the "hump" formed by the candy makes them fit badly, the warmth of the brood nest escapes on every side, and unmistakable damage is done. Stocks cannot be "built up" in this way. It is done by "nursing"—*i.e.*, making the bees warmer and more snug than before by contracting the breeding space, doing away with winter space below frames, and stopping up all ventilation—just as the bees will themselves do as soon as propolis is to be had.

Our own plan is to remove the "eke" (used for giving space under frames in winter) from below the body-box or brood chamber, and the latter is dropped down on the floor-board to its normal position. The "eke" is next turned over or reversed and slipped on the top of the body-box; the "side slips"—now turned downward—keep it firm in position, and the quilts, with the cake of candy beneath, can then be packed close down at the sides quite warmly, the sides of the "eke" enabling us to do this more effectually than is possible when the coverings are simply laid on the flat surface of the top bars.

Spreading Brood.—No operation we know of connected with modern bee-keeping has

been productive of more mischief through mismanagement, than indiscriminate spreading of brood in spring. If anything were wanted to confirm this view it would surely be found in the numerous samples of "chilled brood" received during the early summer months of last year, the majority of which were the unmistakable outcome of this particular operation in the hands of inexperienced bee-keepers. Indeed, so disheartening is it when the mischievous effects of injudicious management in this line are brought under one's eyes day after day, that we have over and over again wished that brood-spreading had never been heard of, that it was eliminated from all our guide-books, or—let us add—that bee-keepers would only practice it when they had gained experience to guide them as to when it is *safe*.

Yes, this last reservation should be added; for in proper hands and at proper times it is so beneficial to do a little judicious manipulation of the brood combs, that we cannot wonder at writers possessing the necessary experience including it in the "good things" they have to tell off. A sheet of foundation dropped in the centre of the brood-nest in a strong colony during warm weather in April or May will often be partly drawn out, and contain some thousands of eggs, in about twenty-four hours after its insertion. And there is so much fascination in raising up that particular frame and finding it so, that one can hardly marvel at so many being tempted to spread brood, and spread it till a sudden "cold snap" comes, and finds the tender larvæ left outside the contracted cluster to chill and die!

To record the *gist* of these remarks in practical form, let us say to the inexperienced amateur, if you *will* try this operation, never part the cluster constituting the brood nest by adding more than one frame of comb or one sheet of foundation at a time, and then only when there is a spare seam of bees, on each side, beyond the combs which contain brood or eggs, so that the cluster may contract thus much without risk of leaving the brood uncovered. [A good deal is left unsaid anent directions for spreading brood, and it is omitted advisedly, because, speaking in the light of experience, and for reasons stated, we do not desire to revive a practice which, thank goodness! is falling into disuse.] It might be added that the risk is minimised when the weather is settled and warm; but the mischief is that it is only in early summer, when building-up is in progress and weather is uncertain, that brood-spreading is desired. In warm weather supers are on, and the brood nest is then safe from interference.

In writing as above we do not desire to minimise the advantages to be derived from this operation in the hands of a skilful and experienced bee-keeper, but, we repeat, the last-named is the only one who can spread brood without risk of mischief resulting.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

A BATTLE ROYAL.

[3915.] Last autumn, while driving some lots of condemned bees, those from two skeps were being united and were thrown on a cloth in one heap to secure their thorough assimilation into one harmonious whole. The queens were left to settle matters on the principle of the survival of the fittest, and the united lot left in a shady corner to walk at their leisure into the swarm box, while the operator dealt with some further lots. On returning some time after he was delighted to be a witness of a battle *à la mort* between the two queens. They were closely locked in a most unloving embrace.

"Foot to foot and eye opposed,
In dubious strife they darkly closed."

Legs and *arms* were being constantly shifted, evidently with the design of securing a better purchase of the adversary in the tug of war going on. Round and round they went spinning in wild gyrations. Now the one and then the other got atop, but most of the fighting was done by both combatants while lying on one side. The one aim and object of both, however, seemed to be to get her stern fixed into the most vulnerable part of her opponent, and this the beholder thought had been repeatedly secured, but evidently the queen knew better, as she failed to send the thrust home. Twice they unlocked their close embrace and rested in what seemed to be a mutually arranged truce. But at it they went again in "reel and rout." The amount of tossing and spinning that went on was wonderful. One feature of the combat was peculiar. The bees took not the least notice of it all, but went on quietly marching into their new domicile regardless of the combatants. It was impossible to say exactly how or when the deed was done, but in the end one of the queens cleared off after giving herself a shake—perhaps it was a shout of victory—and then marched after her subjects. The other stood for some little time seemingly, to all outward appearance, all right. But soon she assumed the drooping, stinted, doubled-up look of a strung bee. Being called away to deal with the other driven lots I missed the further *denouement*. But on returning some time after the queen was found some little distance away dead!—D. M. M., *Banffshire, N.B., February* 23.

(*Correspondence continued on p.* 86.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Lord, as a bee-keeping schoolmaster, represents a type of bee-keeper whose numbers we are glad to see increasing among those whose duties are carried on in village schools or in schools located in rural districts. The influence for good in this direction will make itself felt a few years hence, for we cannot conceive a more effective way of inculcating a love of bees among those who are to become the men and women of the future than the method described by Mr. Lord in the notes

MR. E. S. LORD'S APIARY, LONGSDON SCHOOL HOUSE, STOKE-ON-TRENT.

sent to go along with his bee-garden picture in print. He says:—

"The apiary seen in the picture is situated in a sheltered corner of my garden, in close proximity to the playground of our school. With over 100 children constantly playing around it says much for the temper of the bees that during the five and a half years I have been a bee-keeper, only on two occasions has a scholar received a sting. Bee-keeping is taught in the Standards, and when the class is arranged round the hives or on the wall between the playground and garden, many are the observations made by passers-by. Some of your readers may smile at this, but the present-day education is much more 'educative' than that of our fathers. Further, on my list of 'object lessons' submitted to and approved by H.M. inspector a note was appended, stating that certain lessons would be 'demonstrated' to the children in the school house apiary. I may be an enthusiast on this subject, but I believe that bee-keeping should be taught in *all* rural schools. By so doing, some of the future men and women will become bee-keepers, and the profits and pleasures accruing therefrom will amply repay them for the trouble. I never examine my bees without asking some of the boys or girls to accompany me, and for this purpose I keep about a score of bee-veils handy. On examining our county council prospectus I noticed the evening gardening classes were subsidised by the County Council, and I wondered why not bee-keeping classes also. I wrote to the Director of Technical Instruction, and, receiving a favourable reply, commenced a class which has been very successful. I was advised by the expert for our county to try for the 3rd class expert's certificate of the B.B.K.A., and succeeded in gaining it. Our district is a splendid one for clover-bloom, and yields good honey in consequence.

I have another apiary at the other side of the house, as I did not think it advisable to add to the number of my stocks in quite such close proximity to the school. I might add that my No. 2 apiary occupies part of a field,

and no inconvenience arose when the harvesters were at work in the same field. I may also say that since commencing bee-keeping I have been a regular subscriber to the B.B.J., and would feel lost without it.

"The above was written before the season's honey for 1899 was extracted, but as my crop is now not only secured, but sold, I add a few lines to say that my sixteen hives yielded about 500 lb. of honey, which I have disposed of wholesale at 10d. per lb.

"When I tell you that, in addition to my day-school duties, I have evening continuation school occupying me three nights each week in winter, and travel forty miles weekly on my 'bike' to science classes, and at the same time am hard at work endeavouring to complete my examinations for the B.A. degree, you will know that I have not much idle time; yet I am just commencing apiary No. 3 at a farm about a mile distant. The photo. was taken by Mr. Horne, of Leek, and it has been the means of starting him as a bee-keeper; in fact, he is now quite an enthusiast in the craft. I believe thoroughly in introducing new blood—*i.e*, at least two good queens, purchased from known queen-breeders, are added to my apiary every year."

CORRESPONDENCE.

(*Continued from page* 84.)

"MUSINGS" ON SELLING HONEY.

[3916.] I note in the last few issues of the B.B.J. a tendency to discuss the price of honey, mode of selling, &c., and as suggestions, good, bad, and indifferent, have been made with reference thereto, I may be allowed to say a word or two on the subject. First, as we know that circumstances alter cases, let us suppose a few of these different cases:—

A bee-keeper, living quite 100 miles from London, in a sparsely-populated agricultural district, keeps some fifty stocks of bees. Money is scarce; he may perhaps have never glazed a section in his life, nor graded any either, may be. But he has at times sent quantities to London in bulk, and got back in cash, which gives, when worked out, a net price of 5½d. per section. Yet this man every year has a quantity of honey of a sort left on hand, and when asked if he does not find any sale for it locally, he answers, "Certainly, for some." The next question, What price do you charge? produces the prompt reply, "A shilling per section always." I then venture to suggest that the humbler folk would buy a lot of honey from him if it was cheaper. "Oh, yes," he answers, "probably the lot at a price." "What price," I ask? "Well, about 6d. or 6½d. per section." "And why don't you let them have sections at that price?" "Because I am not disposed that way. A shilling always was my price, and always will be." We don't argue any further.

Now, I contend that the man who talks thus stands in his own light. Here is a ready market at his very door, and yet at a penny per section more than he gets wholesale, he keeps the trading door shut. Yet cases like the one named I find quite common among agricultural villages generally.

At watering-places, too, and health resorts, &c., bee-keepers on the spot cater for summer visitors (must make hay while the sun shines, you know), and 1s., 1s. 3d., and 1s. 6d. per section, or the same price per jar for extracted honey, is looked for. These prices are, of course, very nice, but what is the result when fully thought out? Visitors who would have been customers of the local bee-keeper at a moderate price, go back to their homes without carrying a single section with them, and evidently regarding honey not as a daily food, but as a luxury only to be indulged in for a few days in the year.

A third typical bee-man is located a distance from a town, but would not think of trying to sell his produce near home, unless at the orthodox shilling a pound; yet, when sections are ready to take off, he tears up to local towns, races round to all the shopkeepers, gets rid of a dozen here and two dozen there; takes part goods in exchange at another place—goods he does not probably require—instead of creating and sustaining a local trade around his home, reliable and continuous more or less year after year, at quite as good a price retail, as they have wasted time and strength in the local towns when "wholesaling."

Those who live in towns (and I find a number of bee-keepers *do* live in towns), when selling their produce in bulk, are generally offered about half the price they see their goods retailed at; yet, if these same bee-keepers offered their goods retail at 15 per cent. more than they can get in bulk, they are charged with "cutting" trade, ruining the industry, &c. On the contrary, I contend they are sustaining the industry by creating a general demand for honey.

Regarding the question of selling honey, I had an inquiry for some 500 sections (from a bee-keeper, too, who was also a honey dealer). I have kept a copy of his conditions of purchase, which, briefly stated, may be summed up as requiring perfect sections on all points, and, if I paid carriage, he would select all that came up to his ideal or standard at 5s. 6d. per dozen! I fear you would regard the reply I sent as "not fit for publication," so will not trouble you with it. A friend of mine did send three or four lots at different times to the same party, my friend being a man who in dealing was straight as a dart. The goods were sent by a careful carrier, and had not far to travel; there being no complaints. But one day a box was returned to my friend containing about as odd a lot of broken sections as could be imagined. So numerous were the pieces that it would have been nearly impossible to count them. However, they were

returned at once, with a demand for all the sections sent to be returned forthwith or cheque in payment for whole by return post. The cheque was sent by next post without a word. Comment is needless.

If asked to name a remedy for the evils I complain of, I first say that if the rural bee-keeper has not cultivated a local trade he should do so, and at prices consistent with your particular locality. If your honey will sell at 6d. or 7d. per section at home, do not break your heart trying to get the same prices "wholesale" elsewhere. If located where visitors go for health or pleasure, or if you live in a town (as I do), carry out the same principle. But some may say, "What about large stocks of honey from apiaries where many hives are kept?" Ah! "there's the rub." Many of us have places where we can place it, if the name is good enough, and there is a great deal in "name" in selling honey. I contend that finding an open market for members' honey by means of the different bee associations is one of their failures. It appears to me that some of those who could do much for sellers have too often an "axe" of their own to grind, and keep the door barely ajar which should be wide open to all.

But you will think I have said enough this time about honey selling, and we are all longing for the time when the summer is with us again, and, as our lamented friend "Lordswood" said, remove the brickbats and flints from the hive roofs, and get out among the bees. I fancy I can already hear a hum in the air, which is very soothing to a bee-keeper confined as I have been indoors for a month past. I have, with frost outside, been reading Miss Mitford's "Our Village," and have thought what a fine bee-keeper she would have made! While reading some of her tales, one can imagine summer is at hand, that the singing of birds and the sound of the purling brook is heard, the scent of the flowers and the hedgerows, the hum of bees filling the air everywhere around; but the days are lengthening, the realities will soon be here, and may all the readers of the BEE JOURNAL be ready for the good time I trust is in store for us.—BEECHLEAVES, *Berks, February* 18.

MAKING AN OBSERVATORY HIVE.

[3917.] After reading the most interesting article of your correspondent, "South Devon Enthusiast," "A Season's Observations of Bees at Work," in B.J. of February 15 and 22, I came to the conclusion that, with myself, many of your readers would like to have a description of the observatory hive, with measurements and, if possible, illustrations, so that any amateur carpenter could make one. I am fully persuaded if this could be done a great deal could be learned of the habits of bees, now only known to the select few. — T. HERBERT POWELL, *Castle Acre Vicarage, Norfolk, February* 22.

[An observatory hive, such as that possessed by the writer of the article referred to, is, we fear, a long way beyond such a one as "any amateur carpenter could make." Indeed, we could not put this view more forcibly than does "South Devon Enthusiast" himself in the last par but one of his article, page 78, when he says of his own observatory hive: "The best must perforce be costly, for a practical knowledge of bee-keeping, combined with great skill in cabinet making, are necessary for their production." This being so (and to our personal knowledge it is so, for we have had occasion to inspect the hive in question), the cost and trouble of preparing full specification, "with measurements and illustrations," would be altogether out of proportion to their usefulness, seeing how very few would be able and willing to use them. "On the other hand"—as our South Devon correspondent adds in the same par. from which we have already quoted—"a fairly clever carpenter who has had a chance of inspecting a well-made hive, could, no doubt, turn out one which, for want of a better, might well serve his turn." We may also say that a few particulars on the subject appear in our issue of January 25 on p. 40, and we are told on p. 58 that Messrs. Cassell's periodical, *Work*, of January 27, contains instructions, with drawings, for making an observatory hive of the more simple type.—EDS.]

A FORWARD COLONY.

NORMAL DRONES IN FEBRUARY.

[3918.] I had drones flying strongly from one of my stocks on Sunday, February 18, so I examined the bees to-day, being a fine warm day, and found them in good condition, with hatching bees and brood in all stages. This is the earliest date on which I have ever had drones flying from a normal stock.—E. W., *Romsey, Hants, February* 22.

[The above remarkable case of early drones comes from an experienced bee-keeper, who is also a large honey producer, and in consequence would appear to be reliable.—EDS.]

WORCESTER B.K.A.

[3919.] I am very glad to see that the question has been raised in the B.J. as to what has become of the Worcester B.K.A., and also to see that a meeting is at last going to be held. I have been a member three years now but have never yet received a notice of a meeting or show; in fact, I do not know who the elected officials of the association are, and am therefore writing to ask you to kindly tell me who the hon. secretary and treasurer are, that I may pay my subscription and so be privileged to have due notice of the meeting sent me. For my first two years of membership I

paid my subscription to the expert, but last year he did not take it.—C. M. W., *Kidderminster, February* 25.

[The Hon. Secretary of the W.B.K.A. is the Rev. E. Davenport, whose communication regarding annual meeting appears on page 70 of our issue for February 15.—EDS.]

Queries and Replies.

[2341.] *Moving Bees in February.*—Owing to change of residence, I am compelled to move my bees. The distance is about a mile and a half. 1. Can I move them now without loss? They are well supplied with stores. I am transferring all standard frames and bees from old hives into new "W. B. C." hives. I have still two lots to transfer. 2. Can I do these before breeding commences? If so, how soon? In transferring I lift the frames out of the old hive quickly and quietly, and place them in the new hive in the same positions they occupied in the old hive. 3. Is this the correct method in this case?—E. G. R, *Aintree, February* 19.

REPLY.—1. If moved this month carefully—after dark and choosing a cold evening for the journey—the hives need not even have their entrances closed; and almost no disturbance to the bees will follow. 2. Defer transferring till the bees are quietly working on their new stands, after which they may be transferred in the way described on any fine day when bees are flying freely. 3. Yes.

[2342.] *Bees Dying during Winter.*—I send you a piece of comb with dead bees adhering to it taken from one of two hives in which I have to-day found the bees all dead! The hives stood both together and had over a stone of sealed stores in each. I should like your valuable opinion on the cause as I have never seen that dread bee-disease, foul brood, so should be thankful of an expert's opinion. They appear to me to be hungered and starved to death, with plenty of stores close round them. The hive with the comb that I have sent to you was well stocked with both bee-food and a good lump of candy at the end of the season. In the other one I found brood in all stages, which I account for by having them all to remove about six miles two months ago. I may add that they were all securely packed and shifted under my personal care, but had a very rough road to travel on. I have never had a similar case that I could not find out a cause, but am at a loss in this one.—HAWKEYE, *Yorks, February* 19.

REPLY.—The fact of dead bees being found on one side of comb only and entirely empty cells on the other clearly shows it a case of a seam of bees cut off from the cluster to perish afterwards from want of food and inability to rejoin the cluster owing to cold. When honeyless cells, all occupied by dead bees head foremost in them, are found in a comb, it means death from hunger and cold, and it is more than likely that the whole of the dead bees will be found some distance away from the stores of food found in the hive. What is certain in these cases of "death amid plenty" is that bees readily become inert and incapable of movement in very cold weather, and unless the "cluster"—or main body of the bees—is sufficiently large to maintain a proper temperature, the whole lot will starve to death with food in plenty only a couple or three combs away. There were seen in comb sent the usual symptoms of starvation, which was, in our opinion, the undoubted cause of the bees coming to grief as stated.

[2343.] *Spacing Frames—Dead Bees Found on Snow.*—Many thanks for replies to my queries in your last. It is not easy here to get a solution to any bee difficulty, and when such arises one confidently turns to the JOURNAL, and so I venture to trouble you again for an answer to the following:—1. I ordered eight dozen frames, 1½ in. from centre to centre, but when they came to hand I found they were only 1¼ in., or between that and 1⅜ in. What I am not yet sure of is whether to fill the body boxes I may require next season with these, or put in a few 1½ in. from centre to centre. Would the bees be as contented and work as well in these narrow frames? 2. We had a fearful snowstorm here on Thursday, February 15. Friday was fine, with the sun strong. This brought the bees out, with disastrous results. I picked up from the snow over one hundred on Friday, fifty on Saturday, and over one thousand on Sunday. The frost still continues, but the sun is hot about midday, and the bees suffer accordingly. The hive entrances are all shaded, but with little effect. A friend of mine took up over two thousand bees from the ground on Sunday, all from one hive. At that rate, in a short time the queens will be the only bees left in the hives! What should we do? We can't pick them up during the day, being at our work, and if you could offer any expedient by which the bees could be kept in the boxes without injury, we should be deeply grateful.—J. A., K. R., *Perthshire, February* 21.

REPLY.—1. We cannot quite understand your ordering "frames 1½ in. from centre to centre," and on receipt "finding they were only 1¼ in." The standard frame has a top bar ⅞ in. wide and ⅜ in. thick. and by means of either "metal ends" or wide shoulders attached to these top bars, the distance from centre to centre of each frame is increased to the correct distance of 1½ in. If your frames have metal ends, they cannot possibly be only 1¼ in. over all, as stated, and if the frames are kept apart by wide shoulders of wood, no hive maker who has any knowledge of his business would make them of other than the proper width—viz., 1½ in. We must, therefore, know

what sort of frame is referred to before we can reply. In any case, you should not use frames spaced less than 1⅜ in. What you term narrow frames are unknown to us, except in the sense of sometimes spacing frames temporarily at the abnormal distance of 1¼ in. from centre to centre, in order to prevent the building of drone-comb. 2. Nothing can be done beyond shading entrances from bright sun. The probability is that nine-tenths of the bees found on the snow would be dead when carried out by their living comrades. It must be borne in mind that bees avail themselves of the first fine days in the year to remove all that have died from age or other causes from the hives, and this frequently causes unnecessary alarm to beginners.

[2344.] *Renewing Cakes of Candy.*—I have three "W. B. C." hives containing fairly strong stocks. When I packed them up for the winter each had about 20 lb. of syrup sealed over, and in addition I gave to each stock a cake of candy (about 1½ lb.) over the frames. I looked under the quilts last Saturday, and find all the candy gone. Ought I to give them another cake each now? 2. Could you give me the address of the Secretary of the Beekeepers' Association for this district, viz., Chester to Birkenhead?—W. H. McMillan, *Bromborough, Cheshire, February* 21.

Reply.—1. The fact of the candy being gone is no evidence that food is scarce in the hives, you should therefore turn up a corner of the quilts and see if the upper portion of the combs contain a fair amount of sealed stores before troubling to give candy just yet. 2. Write to the Rev. E. Charley, Hon. Secretary of the Cheshire B.K.A., Ince Vicarage, Chester, who will inform you as to District Secretary for Bromborough.

[2345.] *Transferring from Skeps to Frame Hives.*—1. If, in the month of April, you put straw skeps on bar-frame hives for bees to transfer themselves—as you advise W. Shone, Chester, on page 79 of this week's *B.J.*—how long will it take before the skep is clear of brood, so that it can be removed for putting on supers? 2. A friend of mine advises me to drive the bees out of skep until the queen is seen to go up; then stop driving and run the queen and bees that went up with her into the frame-hive. This done, put the original skep and bees that remain in it on the top-bars of frame-hive, with a sheet of queen-excluder between. By thus doing all brood will be hatched in three weeks, and skep can be taken away. Do you advise this method?—A. G. Hughes, *Chester, February* 23.

Reply.—1. As the time when skeps so placed will be free from brood depends entirely on the date when bees have taken possession of lower hive as a brood-chamber, it is impossible to say how long it will take. 2. The plan named by your friend is well known to us, and it is because the method of transferring we advise is so much safer and more reliable that the alternative plan named is not even mentioned, because many instances occur of queens being starved to death below excluders owing to bees deserting them to attend to brood in skep above.

[2346.] *Transferring Bees from Hollow Tree.*—After felling a tree in our district, the workmen discovered that there was a stock of bees in the hollow part of the trunk, and I induced the men to saw off for me the portion containing the bees. This I brought home, thinking of fixing a frame hive in front of the tree trunk, with tube at back, and stopping up all exit or ingress for the bees except through the frame-hive. I therefore ask:—1. Providing I put some frames of comb containing honey in the latter, how long the bees would be in transferring themselves to the frame-hive? 2. Is there any better method of transferring that you can name! It is the first time I have had anything of the sort to deal with, and I thought it was a pity for the poor bees to be destroyed if there was any method of saving them.—A. Thorpe, *Local Hon. Secretary, Cheshire B.K.A., Crewe, February* 24.

Reply.—1. Though it is not certain that the bees would refuse to transfer their brood-chamber to the hive placed in front as proposed, it is more likely that they would (for the coming season, at least) fill the combs of frame-hive with honey while the queen remained in the tree trunk. 2. A better plan, we think—if the position of combs allowed it—would be to saw off as much of the lower part of tree as left the lower edge of combs exposed, and set it above the top bars of frame-hive. The bees would then work down on to the frames of hive beneath, and eventually transfer the brood-chamber below. When this occurred, the tree trunk might either be removed when all brood had hatched from combs in it, or allowed to remain till end of season as a surplus chamber.

[2347.] *Bees in Skep Found Dead.*—I have enclosed specimens of bees, and comb of a skep which I turned up to day. The bees were all dead; the skep was full of honey. It was a "cast" two years ago; I cannot think what was the cause for it. Will you kindly let me know the result of your examination.—S. H. F., *Oxon, February* 19.

Reply.—There is nothing in bees sent to indicate the cause of death. The skep may have become queenless from some cause not apparent.

[2348.] *Faulty Hives and Section-boxes.*—1. I purchased a new "W. B. C." hive last year, and find I cannot place the body in centre of outer case, as there is nothing to prevent bees, &c., from going up to the roof between the walls *in front*. Consequently it has stood as this plan all winter, making it impossible to put any packing between walls on that side. Ought that to be? 2. With this hive I had a

"W. B. C." section-box, and found what seems to be too much space left between the tops of frames in the body and the bottom of section-case, so that combs are built between the two. What space should be between them? 3. Illness made me leave matters, and I found after extraction combs were not given to bees to clean up; consequently there is a little mildew in places. Will these combs be injured for using as they are? 4. Some combs have honey in places—evidently heather honey which extractor did not remove. I *know* this is the case. May I give these combs to the bees for filling as they are? 5. Some sections, too, are unsealed. Can I give these to be completed the coming season?—HEXAGON, *Criccieth, North Wales, February* 26.

REPLY.—Regarding the hive and section-box mentioned, it may be said that—although possessing a sort of parental interest in both these appliances—we cannot be answerable for faults in construction, which must perforce lie on the shoulders of the maker. In this way we have seen so-called "W. B. C." hives and "W. B. C." section-boxes which were to the mind of "W. B. C." himself almost unworkable owing to bad workmanship. If, therefore, correspondents, when writing on these matters, would let us know who made the appliances complained of, it would in most cases tend to save us trouble in replying. For the rest we reply: 1. All good makers send out with the hive a strip of wood for summer use, which, when laid across front between hive and outer-case, bridges over the entrance, and thus the bees can pass only into the hive. In winter, however, the strip of wood is removed and free air-space is allowed between the hive and outer-case, no "packing" of the kind mentioned being necessary. 2. The space below frames of section-box should be the same as is allowed between two racks of sections when placed one above the other, viz., $\frac{3}{8}$ in. 3. If mildew is only slight, as stated, the bees will clear it away. 4. Yes. 5. All unsealed sections should have their contents extracted in autumn. Of course, unfinished ones "can" be given to bees for completion in the coming season, but it is not advisable to do so.

Echoes from the Hives.

How rarely we see a column with the above heading in the B.B.J. of late, one of the most interesting yet most neglected columns in the Journal. Who is to blame for this? Why, we bee-keepers, of course. Let us see if we can't remedy this failing. I should like to see an echo from each county once a month—too much space, I suppose, Mr. Editor? It rained on New Year's-day, and has continued nearly every day since; consequently, bees are confined indoors. Very little has, therefore, been done in the way of "cleansing flights," house cleaning, and pollen gathering. Crocus has been in bloom here for ten days past, yet the first load of pollen was only seen yesterday, carried into a Well's hive. To-day, however, during a few hours' sunshine, dozens of bees were engaged on that pleasing duty. The catkins of the willow will soon be smothered in pollen grains, and our bees will no doubt make up for lost time, if weather is favourable. Hive roofs have had a severe testing lately, and it is surprising how the water gets through. I found some of my best roofs had wet quilts under them, yet to all appearance water-proof and quite sound.

The "Homes of the Honey Bee" continue to be as interesting as when first they appeared, and I hope we shall see one every week of 1900.—C. GOULD, *Havilland Hall Farm, Guernsey, February* 20.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. ABBOTT (Wainfleet). — *Making the "W. B. C." Hive.* — We have already published in B.B.J. full details and measurements for construction of this hive, illustrated with plans and elevation all drawn to scale. The numbers containing these particulars convey many times over the amount of information we could give in reply to your query, and may be had from this office for 2½d. post free.

BEESWING (Worcester).—*Dead Bees Cast Out.*—The bulk of bees found on the ground beneath hives at this season are those that have died of age, or from cold after separation from the cluster. There is less cause for alarm in this way than most beginners feel on seeing a large number of dead bees cast out. As a matter of fact, it is often difficult to see any difference in numbers of bees in May between hives that have had heavy losses in the early months and those that have been almost free from these supposed disasters.

JOHN BRYCE (Linlithgowshire).—*Trading on Deposit System.*—1. We still continue to receive sums on deposit between buyers and sellers. The only reason why the "terms" have not appeared of late is lack of space for the usual announcement in print. 2. Syrup-food made in September last will be quite fit for spring use if boiled for a moment to remove the "slightly sour smell." If thick, the syrup may need a little water added to make it suitable for the bees when given a few weeks hence. 3. The sample of candy sent is altogether too hard for use as bee food. It has been over-boiled, and the bees could not possibly consume the candy in its present form.

*** *Some Letters and Queries in type are unavoidably held over till next week.*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

POSTPONEMENT OF ANNUAL MEETING.

We are requested by the secretary to announce that the annual general meeting originally fixed for Thursday, March 15, has been postponed until Thursday, March 22, in consequence of the board-room at 105, Jermyn-street, not being available for the first-named date. The usual formal notice will be issued through the post.

Subscriptions for the current year, which became due on January 1, will be gratefully received and duly acknowledged.

LANCASHIRE B.K.A.

ANNUAL MEETING.

The first annual meeting of the above Association was held at the Scientific Society's Rooms, Preston, on Saturday, the 3rd inst. Present:—Mr. W. Tyrer (in the chair), also Messrs. W. Fitzherbert-Brockholes, George Roberts, George Rose, A. M. Fielding, Dr. Anderton, W. Austwick, T. Mottram, W. Drinkall, M. H. Johnston, and others.

The annual report having been adopted and the thanks of the Association given to the committee and officers, the meeting proceeded to elect officers for the ensuing year. Sir George Pilkington, M.P., Southport, was elected President, and the following to be Vice-Presidents:—The Right Hon. Sir J. T. Hibbert, Sir David Radcliffe, Miss Kemp, Rev. Canon Blundell, F. Stapleton Brethenton, W. Talbot Brethenton, W. Fitzherbert-Brockholes, Major Campbell, Wm. Carr (Leek, Staffs), Thomas Price, W. E. Tomlinson, M.P., Rev. L. C. Wood. The following were elected to act as Committee:—Messrs. W. Tyrer, George Rose, F. Round, James Chapman, W. H. Chapman, Dr. Anderton, George Roberts, T. Shuttleworth, W. H. Birch, Rev. L. F. Postlethwaite.

The following were re-elected:—Messrs. Alex. Fielding, Hon. Treasurer; F. H. Taylor, Hon. Secretary and Hon. Librarian; and A. Wood, Hon. Auditor.

The new Committee afterwards met for the transaction of necessary business.

In the evening a conversazione was held, and various objects prepared by the hon. secretary were exhibited under microscopes kindly lent by the Curator of the Preston Scientific Association. Other prepared specimens illustrating bee life were exhibited by the hon. secretary. The chair was later taken by Mr. E. H. Turner, F.C.A., who welcomed the L.B.K.A. to Preston, and expressed his pleasure that the Scientific Society's Rooms had been selected. Mr. F. H. Taylor then gave a lecture on the "Habits and Instincts of the Honey Bee" (illustrated by nearly fifty excellent lantern slides), which was eagerly listened to by the audience. Votes of thanks having been passed to the lecturer, chairman, and the Society for placing their room and instruments at the disposal of the Association, the members spent some further time examining the objects of interest and conversing together.—(*Communicated*).

NORTHAMPTONSHIRE B.K.A.

ANNUAL MEETING.

The seventeenth annual meeting of the N.B.K.A. was held on Saturday, March 3, in All Saints' School-room, Northampton. Mr. John Perry presided over a moderate attendance. The minutes of the last annual meeting were read and confirmed. From the report, as read by the secretary and duly passed, we gather that out-door demonstrations were given at Kettering, Dallington, Delapre, Flore Hellidon, Everdon, Long Buckby, Collingtree, and Brackley. The annual show was held at Delapre on August 7 and 8, and was again a great success.

The official thanks of the Board of the Stamford and Market Harboro' Workhouses have been received for jars of honey sent to the respective Boards for the inmates. The accounts were then gone through, showing the receipts to have slightly exceeded the expenditure, and duly passed.

Mr. James Francis was elected hon. member, in consideration of his long connection with the Association. A discussion then ensued on various subjects connected with the welfare of the Association, and the meeting closed with a vote of thanks to the retiring President, E. P. Monckton, M.P., to the chairman and manager, for use of the school.—(*Communicated.*)

LEICESTERSHIRE B.K.A.

ANNUAL MEETING.

The eighteenth annual meeting was held at the Victoria coffee-house, Leicester, on March 3, at 3 p.m. There was a good attendance of members. The Mayor (Ald. Windley), who presided, said it seemed to him that the ingenuity of man was exercised to overcome the ingenuity of the bee. The object in view was to encourage the bee to deposit as much honey as possible, and then to remove it. He saw that they advocated humanity to the industrious little insect, and this was well. When methods were employed to preserve the creature's life, and when the treatment to secure the honey was humane, one could have no hesitation in presiding over such a meeting as that. The Secretary presented the annual report, which stated that a good number of new members had joined in 1899, the list now containing 190 names. The balance-sheet showed a balance in hand at the close of the

year of £14 10s. 9d. The report and balance-sheet were adopted. A vote of thanks was accorded to the retiring officials of the Association, who were, with one or two exceptions, re-elected, the Duke of Rutland being President. The prizes gained at the Agricultural Show last year by members exhibiting were distributed by the Mayor. A vote of condolence with the family of the late Mr. J. Cooper was passed, that gentleman having been a member of the committee. A discussion afterwards arose as to the disposal of the balance in hand, and eventually the committee was authorised to spend £5 in prizes for the best exhibits of honey at local flower shows during the coming summer. After tea, at which sixty members sat down, Miss Kilbourn was awarded a prize for the best essay on the "Advantage of the Bar-frame Hive over the Straw Skep," and to Mr. G. H. Nicholson for the best essay on "Useful Hints to Beginners in Bee-keeping."

The further proceedings included an interesting lecture (illustrated by lantern slides) on the fertilisation of flowers by bees.

A vote of thanks accorded the Mayor for presiding concluded the proceedings.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

PRICES CURRENT FOR HONEY.

[3920.] Referring to "prices current," I would here say a final word, for after what has appeared on the subject in the March No. of *Record* from the pen of Mr. W. H. Brice, I shall not refer to the matter again, though I shall be glad to say a few words to make my position clear to bee-keepers generally. In doing so I may enumerate my remarks as follows :—1. I hope that the majority of readers will exonerate me from "axe-grinding" in suggesting that "our JOURNAL" should give prices current periodically. Personally I have nothing to gain, and I feel sure I shall lose nothing by such guidance not being published. 2. I have advocated it solely for the benefit of small bee-keepers who live in country districts, and who have been obliged to accept any price offered by the middleman, simply, as I think, because they have had no guide to lead them, and no authority to which they could refer as to the prices obtainable in the large towns or centres of commerce. 3. My knowledge of the commercial side of things enables me to secure a market at a paying price, and sell out my produce every year, and, although sales were slow for a time before and after February, '99, trade has been brisk during the past few weeks, and repeat orders are coming in from customers of twelve, fifteen, and twenty years' standing. 4. I have never advocated the idea that we could, or should, get a standard price for honey in all towns, as even the "man in the street" knows that honey varies in quality, and therefore in price, just as the demand. Consequently, a quotation in one town may be 1s. to 2s. per dozen more than in another. I only quoted the prices given (on page 62) as an illustration, not deeming that they would be of any help whatever. Nor did I expect that "our JOURNAL" would give current prices for foreign honey, or that there would be competition between that and the British product. My hope was that the B.J. would rally to the aid of British bee-keepers, and quash such anomalies in prices as "D. M. M." refers to on page 63. My advertisements—as "D. M. M." says of his "local" advertising—have drawn blank so far.

I notice that your correspondent "Beechleaves," (3916, page 86) advises the village bee-keeper to sell his crop locally, retail, at wholesale prices. This may appear very easy to the townsman, but as a village bee-keeper myself, and always ready to do business with my neighbours to their advantage by selling at a low figure, I may say that even low prices do not induce them to pay 6d. for a 1-lb. jar of honey when they can buy a 2-lb. jar of jam or marmalade for that sum. The wages of farm labourers here (10s. per week) does not leave a wide margin even for cheap "luxuries." Then as to county associations selling members' honey, "Beechleaves" considers this a failure. To a certain extent this may possibly be true, but secretaries of these associations are not highly-paid officials as a rule, and often possess very little spare time for recreation or individual and home interests, yet they are expected to occupy time required too often for their own private business in dealing with members' difficulties with their bees, their honey, and with all troubles connected with the apiary. Indeed, so great is the call upon the time and services of this often "willing horse," that the "Saturday half-holiday" goes in helping others. As for finding a market for members' honey, in which, according to "Beechleaves," the associations are a failure, I know that members sometimes send on a parcel of honey with instructions to secure the best obtainable price ; and when it arrives in odd-sized jam-jars or "lollipop bottles"—in fact, comes to hand in entirely unsaleable form for a tradesman's window—what can the poor secretary say or do in answer to a letter of inquiry every few days for the money? This is no flight of fancy ; it is what not seldom happens.

I do not know if "Beechleaves" is a member of our Berks Association. If so, possibly we had the pleasure of his company and support at our late annual meeting in Reading; if so, he knows the position in which the Association stands just now. To carry on the useful work it has done in the past we want funds. Seeing that the balance of the year's account is on the wrong side, the executive had to consider various schemes and suggestions for meeting financial troubles. Other associations may be in a similar plight to our own, so that here is a good opening for those among us who have a *forte* for association work to come to the rescue where these financial troubles arise. Or if they prefer to take things easy (as too many, I fear, do), they can at least do something tangible by paying their subscription promptly, and enclosing a donation towards the deficit. Our Berks B.K.A. has ever endeavoured to help the cottager bee-keeper, who, for the sum of 2s. 6d. per year, has enjoyed the whole privileges of the Association, including a free copy of the monthly journal, which latter item alone swallows four-fifths of the sum paid as subscription. The ordinary member also (who subscribes 5s. per year) should remember how small a part of the subscription is left to meet the cost of carrying out the work, the items of which are too numerous to detail in full, but all of them involving more or less expense as well as labour.

Yet our friend "Beechleaves" pleads for the open door for every seller of honey. If he has not seen the report of the Berks Association and their work in 1900, I ask him to become a member forthwith, and thus become entitled to a copy: he will then have some idea of the number of bee-keepers and the quantity of honey we should have to sell if the door of our Berks honey depôt was open to every seller. I fancy we should crowd out the dealers in "the staff of life" if we could secure the Corn Exchange in our county town as a honey depôt.—W. WOODLEY, *Beedon, Newbury.*

NOTES FROM ESSEX.

[3921.] The letter from Mr. A. C. Sewell of Durban, referring to bees in Ladysmith (3897, page 56), was very interesting. The joy of the people of Durban was possibly even greater than ours in the Mother Country at the relief of Ladysmith. I have no doubt every reader of the B.B.J. would be pleased to hear what effect the siege had upon the bees referred to in his letter. There are, I know, bee-keepers among those who have "left for the front," and when the war is over I hope that some of them will endeavour to call upon Mr. Sewell before returning home. In Mr. Kipling's poem the question is asked, and "Who's to look after their things?" and, so far as bee-keepers are concerned, the looking after the things of our brethren is in some cases taking the most practical form possible. A correspondent in a recent letter to me said, "I am also looking after the apiary of a friend who has been called out to the seat of war."

Selling Honey.—This subject has been warmed up so many times lately that I am afraid that anything further to be said on the question may go down like bread a week old. But a correspondent of the B.J. last week (3916, page 86) commandeers the protection of the foliage of a beech tree to deliver himself of what he admits is a supposition. Some of it is purely so. This is my reason for replying to it. Your correspondent evidently quite believes that all of us who live out in the country are genuine bumpkins, otherwise he would not even suppose that Hodge demands 1s. a pound for his honey at home when he can't get that elsewhere. The man who stands in his own light to such an extent gets frightened by his own shadow in a short time, and very properly gives up bee-keeping because of his incapacity for "business."

Your correspondent, "Beechleaves," lives in a town, and it is rather a big undertaking of his to show the countryman what he should do. I lived in a town, and kept my bees there for some years, and I can say that it is much easier to dispose of one's produce when so located, though I fully admit that the quantity of produce is smaller. The town bee-keeper can sell much of his honey by exhibiting a few sections and jars in his window, and the remainder—unless the number of stocks of bees kept is large (but that is hardly possible under the circumstances)—by doing a little peddling in the evening after his ordinary work is over. Out in the country, however, the quantity of honey sold on the spot is, comparatively, very limited; the number of passengers along a country road is so small that if twenty persons pass one's door in a few hours it is certain that there is "something on" out of the common. "Peddling" honey in the country is out of the question; the districts are so thinly populated, and so many of the occupants of country houses either keep bees themselves or have a friend who does, that the peddler does not find it worth his while to continue the search for customers. I have occasionally hired a horse and cart to do "peddling," but this is expensive. My experience of country bee-keepers who are in circumstances that will allow them to demand 1s. a pound for honey (and keep it if they do not get it) is quite the opposite to that of your Berks correspondent. I find they take the first offer, usually far below what is a reasonable price, but no attention is given to grading. I also find that it pays best to sell all the honey I can at home at a trifle less than I can elsewhere. Until our county bee-keepers' associations can be put upon more substantial foundations financially, I cannot see how they can possibly undertake the sale of members' honey, as something in

the way of a depot is a necessity for that purpose. Then the honey produced by a dozen different members is so different in one way or another that an experienced person must be employed to deal with it.

If ever the time comes when our associations can have a centrally situated depot, where appliances are stocked for sale and members' produce can be received and distributed, they will be able to employ an experienced man to grade, sometimes blend, the different lots of honey sent in, because the lots are very small, and are thus unsaleable if offered singly. At present, however, bee-keepers' associations have to do the best they can under the circumstances in which they are placed. So far as I can see, all that they can do is to educate their members in putting up their honey in the best form for market. I have been interested in the B.K.A. of this county and its work for some years. I have bought a good many lots of honey for resale, and have often noticed how much the produce of different bee-keepers varied in marketable form. I should like to see our county associations better able to assist the members in disposing of their produce, but this would not be without its disadvantages. One cannot help noticing that some will not even do their bee-keeping themselves, very often leaving the "expert" to do it for them. There must be a combination of individual and associated effort in our bee-keepers' associations if all the good that is possible is to be done.—Wm. Loveday, *Hatfield Heath, Harlow, Essex.*

BIRDS AS ENEMIES OF BEES.

[3922.] Amid wintry weather, with snow knee-deep, the poor birds are feeling the pinch of want very severely, and one feels sorry to see them venturing up to the doors and windows in search of food. Hunger has tamed and made them very daring. My experience with the tits, however, compels me as a bee-keeper to bring them in guilty without a recommendation to mercy. I am inclined to think if our friend John White, who wrote "A Plea for the Tomtit" on page 34, had his bees in such a district as mine, heavily wooded and full of birds, his love of the tit would receive a shock, and his feeling undergo a rapid change. Some of my hives are placed near a wood, with their entrances looking through a railed fence, and when on a fine day the bees are flying, many of them alight on the rails, and I have many times watched the tits—making the said rails their foraging ground—busily picking the live bees off as they alighted. When they have fully satisfied their big appetites they fly into the wood, not to search for more food, but to play about and digest what they have got; then back they come. Picking up bees is apparently easier than hunting a tree or two over for a few insects. Only a few days ago a bee-keeper took me to look round his hives and see the damage the blue tit had done, in the shape of handfuls of bees' heads, wings, &c., which he had swept up.

I for one should welcome a plan for the entire extermination of the tits, for, trap and shoot as you like, they come and gorge themselves without the trouble of first earning their meal.

Last summer we were much plagued here with that agricultural pest, the sparrow, commencing operations on the bees. They began in a small way, only carrying off dead bees from the ground, but soon they began to take the live ones, flying off with them to their nests on the house roof. This mischief was brought to my notice by a friend (a gamekeeper), who, on passing the hives had, he told me, seen the sparrows busy on the alighting-board, catching the bees as they came in and out, carrying them to their young ones. I thought he must be mistaken with regard to sparrows, but on our going to the hives and seeing the damage they had done, I could hardly think it credible. Being a lonely place they had had a "clear go." The place was alive with sparrows, and, being a lonely spot, they had no disturbers, and probably never before had found food so easy to get as bees. However, after feeding them for a day or two, in a direct line from the bed-room window, by the use of my gun well charged with small shot I soon reduced their numbers. We then took all the nests we could find, and shot the sparrows whenever we could. I am a lover of birds, but after such a treat as that you may depend on it both tomtits and sparrows will receive a short shrift at my hands. They are welcome to the dead bees and a few live ones too, but I object to them coming in scores and taking them wholesale.—G. A. Barnes, *Pickering, Yorkshire.*

(*Correspondence continued on page* 96.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

We feel at all times especial pleasure in illustrating such "homes of the honey-bee" as that seen on next page, because of its owner being one of the many readers of our journal whose labours for the good of the craft extend beyond their own bee-gardens. The Rev. Edward Charley is the active hon. secretary of a successful county B.K.A., and as such it goes without saying that he gets through plenty of work for the good of Cheshire bee-keepers. We make a point of mentioning this fact (without permission let us add) by way of placing on record what—as will be seen—our reverend friend very carefully refrains from even mentioning himself when he writes as follows:—

"In answer to your request, it is easy for me to give you some particulars, but difficult to

write anything which can be of much interest or value to readers of the JOURNAL and *Record*, because I have not had any unusual experiences. Having been appointed to this small country parish in 1892, I began bee-keeping in the following spring with a stock which was presented to me by a friend. At that time I knew very little about bees, and the gift which I received did not fill me with unmixed gratitude. However, once started, I quickly succumbed to the attractiveness of the pursuit, and the 'fever' has not yet left me. I was fortunate enough to have two good seasons to begin with. In fact, '93 and '94 have been my best years as regards the quality of the honey crop. I remember that an experienced bee-keeper gave me a piece of advice which, I think, affords a very useful hint for beginners to prevent either undue discouragement or too great expectations from a single unsatisfactory or, may be, very profitable season. The advice was to 'take five years' results and strike an average from which to make your calculation.'

"It will be seen from the picture that my hives are anything but uniform in make. This I find to be a drawback. Beginners should choose one or two good types of hives and stick to the same pattern when their stocks increase in number. By this means we secure the interchangeability which is so helpful to comfort and success in working the hives.

"The picture also shows that my apiary is situated in an orchard. I do not find that there are any evil results from the situation, while swarms never go far away. It is curious to note from year to year how certain fruit trees seem to attract swarms without any apparent reason. This district would, I suppose, be classed as a fair, though not first-rate, one for honey production. We rely mainly on white clover, of which there is usually a plentiful supply in the pastures. There are many fruit trees, but too frequently the weather is very unpropitious when they are in bloom. There are also chestnuts, sycamores, and limes, but none of them exist in large numbers. My apiary consists of about twenty-five stocks. A few of them are kept in a 'bee-barn,' which is not visible in the picture. I have had one or two 'Wells' hives for several years, but have formed no decided opinion about the system, though it seems pretty clear that weak stocks build up quickly in such hives. I also find that it is not necessary to trouble oneself as to whether the perforations in the dummy are filled up or not, for when the honey-flow has started, the bees will work together amicably in the super which is common to both stocks. I would recommend beginners to attend bee demonstrations and lectures, which I found most needful at first. What small amount of knowledge and skill I may have acquired by study

THE REV. E. CHARLEY'S APIARY, TARVIN, NEAR CHESTER.

and by practice has only served to make me feel that a very great deal more remains to be gained, for in spite of seven years' experience and the fact that I gained the third-class experts' certificate of the B.B.K.A. last year, I consider myself still only a beginner in apiculture."

We hope Mr. Charley will continue to take an interest in his labours for the general good of bee-keeping, and that his efforts may still further tend to the prosperity of the Cheshire B.K.A.

CORRESPONDENCE.

(*Continued from page* 94.)

"WHEN DOCTORS DIFFER."

RACES OF BEES—WHICH IS BEST?

[3923.] To use a Parliamentary phrase, the "cross-bench" mind comes in here with an admirable exhibition of variety and *contrariness*. I have even heard Tunisians (or so-called Punics) praised—nay, lauded to the skies. Think of it, ye gods! They were said to be quiet, gentle, easily handled, good workers, prolific, good honey-getters, good cappers, not robbers as a rule, early risers, late of going to sleep, excellent nurses, capital defenders of their stores, not given to excessive swarming, not given to dysentery. That is laying on the brush with no light hand! I used to think it was easier calling bad names, and that expletives were more easily coined than words of commendation; but after the above pæan of praise I must revise my opinions on the subject. Alas, that the shield should have a reverse side! I have heard these same bees called all the bad names it was possible for so fair-minded a person (as a bee-man always is bound to be) to call them. I almost asked him to do the remainder of his swearing in one of the dead languages, but refrained, as a feeling of the same kind prevailed in my own heart; so I gratefully let him speak his mind, and thus got all my swearing done by proxy. One rev. gentleman records in your pages, "These Tunisians seem to be a bad lot!" It almost reads as if the parson had *inwardly* emulated my friend's use of bad language. Another gentleman gives as a record the large number of 208 queens and queen-cells he killed or cut out of one of his hives of this kind of bee. What a paradise for a queen dealer! These "prolific" bees, at 2s. 6d. a queen, would run up a nice little profit of £26—with more to follow. I refrain from following out this line of argument any further.

"Give a dog a bad name and it sticks to him," says the old proverb. Possibly, in nine cases out of ten the dog deserves all the bad names he is called. Who has not heard of Carniolans as swarmers? And who that has had to do with them has not found them the bane of his bee bliss? Have not your pages times without number recorded these swarming propensities? Honey, that desideratum of all apiarists, they *would not* secure him. Swarms which were not desired, they supplied in superabundance. One gentleman (Mr. Webster) had "*eight* swarms from one hive in a single day." He adds, "I wouldn't for the world try them again. I made a regular queen-killing raid on them." Mr. Brice says, "Gentleness is the only good quality they possess. Swarming is their bane. Out they come prime swarm, first, second, third, and fourth casts, which means good-by to any chance of a surplus. They have been imported largely into this country to the detriment of our own variety." Yet Mr. C. N. White writes, "As an all-round bee I don't think the Carniolan can be beaten," and Mr. Simmins says, "Longevity is one of the most valuable qualities possessed by Carniolans. They are usually very gentle, hardy, and long-lived, use little propolis, and are beautifully white cappers. They are *the* bees for beginners, and none should start with any other kind." One specialist pins his faith in them, and considers them the bee *par excellence*. Other races may be good, others better, but Carniolans are the *best*. The Irishman's praise—"Heaven's reflex, Killarney"—can't be excelled by higher praise. The above description of our white-ringed friend can't be capped. We can't "go one better" than the *best*. Mr. Webster once said, "There must be Carniolans and *Carniolans!*" I echo it.

Ligurians are the most boomed in certain quarters at present. Unanimity by no means prevails. Virgil wrote of it as the "better bee." Our senior Editor "has been very successful with well-bred Ligurian queens." Our Junior Editor places it a step lower than the ancient poet; his comparisons are, Ligurian good, Carniolan better, Black best. In answer to a query, "Do you prefer Carniolan to Ligurian?" he replies, "Yes." While in another place he writes: "In common with most in this country who have had experience of both varieties, we personally prefer natives to foreigners." Here is another interesting crumb: "From some cause or other Italian queens frequently disappear after a season's work." Another "editor" states that "Ligurians are more prolific, their progeny swarm earlier, they work harder, and both earlier and later in the day and season, they work on flowers inaccessible to the common bee." The highest authority on Ligurians, who has written reams in their praise, characterises this last statement as an "exploded myth." One highly capable of knowing says: "Ligurians (or any trace of Ligurian blood) are strongly objected to by honey producers in Scotland and Wales." This, of course, arises from the well-known fact that they are bad cappers of comb-honey. Mr. Grimshaw supplies the following significant statement: "We have it (F.B.) since we began importing; we *had it not* before that time." Here are two other important statements:—"I (W. B. Webster)

assert that they will show in many cases a 25 per cent. increase in the honey yield." A dealer in queens says: "Italians are not subject to spring dwindling. Intense energy and longevity are their essential points of excellence, which overcome all obstacles." Heigho! What a see-saw of conflicting opinions. There must be Ligurians and *Ligurians*. The last sentence is not a quotation, but a reflection of my own.

Hybrids in all their varieties provide a wide field for speculation and varied experiences. Here are a few choice opinions of men who are prominent in the profession, and classed by yourselves as "Eminent Bee-keepers":—

1. "An objection to hybridisation is the tendency of hybrids to prove vicious."

2. "I would sooner far manipulate a colony having a mother-bee of the first cross Ligurian-English, than any black colony that could be produced."

3. *Vicious* "bees sent are hybrid Carniolans."

4. "Quiet half-bred Ligurians—a cross difficult to beat both for quietness and industry."

5. "Hybrid bees often develop a bad temperament, resenting interference."

6. "The only cross that did not make matters worse instead of better is the one between Ligurian and native bees."

7. "By crossing even irritable Black bees with Carniolans, we secure some of the finest and best-tempered workers that can be desired."

8. "Personally we prefer a good strain of the Black native bee to any other."

9. "Personally I may say that no pure race of bees have ever given me satisfaction."

10. At the minor crosses no one has a good word, so I will content with one quotation: "The result was the most truly vicious bees I have come across! They not only stung the operator, but smoker, quilt, hives, trees, and everything within reach." Mr. Woodley pins his faith to the Blacks, the pure Blacks, and nothing but the Blacks. Mr. Walton's show a distinct trace of Carniolan blood. Mr. Brice votes out and out for the first cross of hybrid Ligurian-English. So it is all over the country. Each one thinks his own strain the best.

I have only touched the fringe of the subject, and throughout I have sought for elucidation, not from any dim farthing rush-light of an ordinary *fellow* like myself, but from the prominent lights of the bee-keeping world. Some time ago you promised, in answer to queries from a reverend gentleman (3436, page 444, 1898), to initiate a discussion on the subject of foreign queens and hybridisation. I trust this contribution may serve that purpose. My sole difficulty in compiling this article was to boil it down within reasonable length. Quotations are therefore of the shortest, but I have endeavoured to give the views of those quoted fair and square.—F. E. I. S., *N.B.*, *March* 2.

OBSERVATORY HIVES.

[3924.] Your correspondent ("South Devon Enthusiast"), in his interesting article upon "An Observatory Hive," mentions in the first paragraph of your issue of Feb. 22 (p. 76), the exciting game of "chiveying" amongst bees, so noticeable to any one watching such a hive. The conclusion he draws from the action is somewhat different to what I did some few years ago when having a small lot under observation. If I remember rightly it appeared to me that the commotion was, as a rule, made by bees who went out early in the day, and having had a successful quest and finding the occupants of the hive dull and listless, set about waking them up to the fact that there was forage to be had for the fetching. It will be noticed that the incoming bee crowds amongst a lifeless gang on the combs and so wakes them up that soon some of them leave the hive in a great hurry.—C. H. Richardson, *Dorking*, *February* 26.

REMEDIAL USES FOR HONEY.

[3925.] Responding to your request on page 80 for method employed in making "Honey and Horehound Cough Drops" and "Honey Soap" I append the following:—

Honey and Horehound Cough Drops.—Put a handful of horehound into a saucepan, cover it with water, and boil until the liquor is strong. Then strain and add honey to it, boil until the water has evaporated, test it like other sweets, and when sufficiently boiled pour into shallow tins to cool. Then cut up into pieces.

Honey Soap.—Take 1 lb. of best soap, cut it up into thin slices, and put it into a double saucepan and melt. Add 2 oz. of honey and 2 oz. of palm oil, stir it well and boil ten minutes. Then pour into moulds. A few drops of oil of cinnamon or oil of cloves may be added to perfume it. A good soap can be made by omitting the oil and using more honey.—Judith, *Oxon.*, *March* 2.

TITS AND BEES.

[3926.] There seems to be some confusion in my mind as to what bird is meant by your correspondents who have written on this subject. Mr. White (3889) speaks up for the tomtit and his friends (?) all the tits. Mr. Neve (3894) does not help me, he only says he can vouch for Tommy's innocence. Our old friend, Walton (3900) helps us a little. He says he has never seen tomtits, or blackatops as they are called here; "these birds are larger than tomtits," but he has seen, &c. Mr. Loveday (3911) generalises them and calls them all tits. It seems to me that localisms are the cause of my trouble, and for some of the hanging on circumstantial evidence.

Ask any boy around here who has found a

nest of *Troglodytes Europæus*, the common wren or jenny wren, what nest it is, and he will straightly tell you a tomtit's. I trust no one will kill any of these birds, for they do not touch my bees alive or dead.

The tomtit with friend John seems to be *Parus cœrles* the blue tit (here called the bluecap); I have never seen these birds destroying bees, but don't they like cherry buds! on some trees they do not leave us a cherry. The only tit that I have seen kill and eat bees is *Parus major*, the great tit, ox-eye tit, called locally blackcap, and in the winter he is a demon at it. I have at the present time a straw skep with a hole pecked right through it, about half way up the front. Mr. Ox-eye, not being able to entice them out of the down-stairs door when the snow was on the ground, opened a new doorway upstairs for them. I have watched them year after year, they will hop all around the hives, and at last select one and commence rapping on the front door. As soon as a bee comes to see what is wanted Mr. Tit, without producing a warrant for arrest, straightway takes it into custody, and carries out the death sentence at once. I used to shoot them years ago, but seeing the benefit they were in the summer picking up cankerworms, &c., I content myself now with pelting them away when I see them at it.—W. H. Woods, *Hemingford Grey, St. Ives, Hunts, March* 3.

WEATHER REPORT.

Westbourne, Sussex.

February, 1900.

Rainfall, 5·26 in.
Heaviest fall, ·90 in., on 15th.
Rain fell on 20 days.
Above average, 3·51 in.
Maximum Temperature, 55°, on 26th.
Minimum Temperature, 18°, on 10th.
Minimum on Grass, 11°, on 10th.
Frosty Nights, 18.
Sunshine, 73 hrs.
Brightest Day, 16th, 8 hours.
Sunless Days, 9.
Below average, 24·7 hours.
Mean Maximum, 41·3°.
Mean Minimum, 31·3°.
Mean Temperature, 36·3°.
Below average, 1·5°.
Maximum Barometer, 29·95°, on 9th.
Minimum Barometer, 28·43°, on 19th.

L. B. Birkett.

Echoes from the Hives.

Chichester, March 1.—Hearty congratulations to the bee-keeper of Ladysmith. (*Vide* B.B.J. of February 8, page 56.) I have several times thought if our friend could have dumped that hive into the trenches, the bees would have shifted the Boers, nor would it have been the first occasion that bees have been used in warfare, as I remember reading once of a crew of pirates who were cleared off the ship they were molesting by a stock of bees being thrown amongst them, and whether the Ladysmith bees were British, pro-Boer, or foreigners, I guess it would have had a like result. The weather here in the South of old England is again colder. Crocus in full bloom, and Laurustinus showing well for a grand display of flower, to help the bees on to natural stimulation, which is the best of all stimulants.—John Daniels.

Terrington, Norfolk, March 5.—The suggestion of Mr. Gould (whose "Echo" appears on page 90) is worthy the consideration of bee-keepers. If our communications are not of sufficient interest, the editorial "W.P.B." is no doubt capacious enough to hold them. Looking over my hives in January after several days' rain, on lifting one roof I found the chaff cover had been gnawed by a mouse. Later in the day as the bees were flying I raised the corner of the quilt to see if all was right. The admission of light disturbed Mr. Mouse, who thereupon put his head out of the entrance to the hive. I thereupon set a steel trap and caught one mouse on the top of the quilts. Next day I found another dead, also above the chaff cushions. This one had died a violent death, as I counted six stings in the head. After destroying it I regretted I had not sent it for your inspection. Last week I found one stock quite destitute of food and every bee dead, although there appeared to be plenty of stores in October last. I have given each of my hives 2 lb. of candy this week. Although bulbs are grown here by the acre for market there are few crocuses, so we must wait for the willow catkins.—W. J. Belderson.

Queries and Replies.

[2349.] *Dealing with Combs Built Across Frames.*—In the B.B.J. of November 9 last year (Query No. 2298, p. 445) you advised me to write to you again in spring on the subject of dealing with fixed combs in frame hives. I therefore now ask, Will you please tell me how to proceed in the circumstances I then related? The frames in each of the three hives are all joined together by the combs being built across them, and have, in consequence, never been lifted out since the bees were put in the hive, probably some years ago. The bees seem to have got through the late cold weather very well, as I only found a score or so of dead ones lying around the four hives.—W. Bracey, *Herts, February* 23.

Reply.—Seeing that you are but a beginner in bee-keeping, we cannot safely advise trans-

ferring the combs to new frames—after removing them singly from those they are now built in—because an operation of that kind involves far more skill in bee-work than any beginner can be expected to possess. We therefore recommend a trial with one hive only, and if the operation works out well in your hands, the others may be dealt with in the same way. First prepare a make-shift box, 14½ in. from front to back, 9 in. deep, and 15½ in. from side to side, all inside measure. This box will take the Standard size frame, ten of which must be filled with full sheets of foundation and hung in the box. Thus prepared, select the strongest of the three stocks, and early next month, if weather is fine, lift the hive from the floor-board and set the make-shift box of frames in its place; then place the present hive and bees on top of the box, cover all down warmly, and leave the bees to take possession of the frames of lower hive, which they will as soon as room is needed for breeding. Three weeks after the queen has begun breeding below, all brood in the original hive will have hatched out and the bees will use it for storing honey in for removal at end of season.

COMB HONEY PRODUCTION.

The production of comb honey is a very nice occupation; but to be successful year by year requires no little knowledge of the business as well as experience. One may succeed in getting reasonable crops and in fair shape when the season is favourable, but let the season be poor, or the stock in bad condition, and success to even a reasonable degree may not be had. It is the good years—ones with abundant secretion of nectar and unusual crops—that give the amateur and others the bee-fever. They have perhaps one or more colonies that give them a good crop, then they straightway count that to multiply the number of colonies will equally increase the income, forgetting that with a larger apiary there must be some colonies that do not happen to be in prime condition when the others are, and so cut down the general average very much. They also forget that larger crops mean less price and more effort to sell, &c. I suppose, however, we ought not to expect fever patients to be rational—they usually are flighty.

The foundation in producing nice comb honey is to have strong colonies. I say, *have strong colonies* to put up your section honey for you. You *can* take even a very small colony, three to five Langstroth combs in size, and produce nice section honey. Yes, you may, in a good season, take nice section honey from a one or two frame nucleus—I have done so in years gone by. This is not contrary, however, to my statement in the second sentence of this paragraph in regard to the necessity of strong colonies to produce section honey—that statement is correct as a fundamental proposition.

Will you take section honey from a few bees? To do so, the hive must be proportioned to the colony. I have an observatory hive that I used some years ago; it holds only three Langstroth combs when full. It is made with wooden ends and bottom permanent, and wood top and sides removable. Grooves are cut on the inside of the ends from top to bottom, so that when one comb is hung in the centre, a pane of glass can be slipped down in the grooves either side of the comb. When more than one comb is needed, one glass side is pulled up and set out one groove farther, making a two-comb colony. If still more room is needed, pull out the glass from the other side and set it in the next groove, thus making room for the third comb. Thus the hive can be quickly changed and made a one, two, or three frame colony by simply changing the glass from one groove to another. The wood sides are removable to allow observation, but always occupy the same place, the space between the wood and glass being more or less, as there are more or less combs used.

Having a colony that was getting too large for the three-comb hive, and a honey-flow on, I put some sections on top and spread a cloth over, and so had a number of sections filled. This principle is just this: If the colony is not strong, you must fit the hive to the bees if you expect surplus comb honey. In this way one may, by having hives that can be easily contracted, squeeze the brood-chamber so that the bees must store above if they get more than the few empty cells in the brood-nest will hold, always *forcing* bees above or outdoors to find room.

While we can thus fit the hive to the size of the colony at the time the honey-flow comes on, and so get section honey from almost any colony, the plan is not altogether practicable. If the apiarist is one who has plenty of spare time to make the proper adjustments at the right time, can guard them to care for swarms, unite those that do not get strong enough for winter, feed those short of stores in the brood-chamber, and many other little things, such a plan will be fairly good. I say only *fairly* good; it cannot be *good*.

Some of the reasons why not good are these: Two or more weak colonies united are not so good after uniting as is one normal colony that has not been united. The normal colony has its stores in better shape (not always the best shape, but better); they have brood, pollen, honey, and empty comb in the most nearly proper position and relation to each other. The united colonies must necessarily have the stores, brood, and empty comb more mixed up and in disorder. Such colonies seldom winter as well as those that have been allowed to shape things to suit their own instincts.

Again, those little colonies that are not sufficiently strong for winter, if not united, must be fed, and this takes time and expense. I am confident that much disarrangement of the combs and stores damages the wintering

prospects. Bees may be manipulated much without detriment, particularly in the spring; simply opening hives and removing one or more combs to look at any part of the colony usually does little or no harm if the combs are put back just as they were; but a general mixing up of combs that contain pollen, brood, and empty cells is detrimental, more or less, save a judicial spreading of brood when the colony can stand it.

Having to feed either for stores, to get bees sufficient to winter, or both, or to have to unite for the same purposes, are expensive and unsatisfactory, yet become necessary by the method of taking comb honey from small colonies that have to be squeezed or forced to the supers. More than this, it takes greater apiarian skill to handle such methods to obtain success, both in maintaining the stock in proper condition and in getting a nice, saleable product. Few, indeed, are the apiarists who do not desire increase of stock, and to those who do not want to risk a decrease in their apiary, and to all but the most skilful, I must recommend getting surplus from strong colonies only.

My next article will continue this subject, entering more fully into the details of the work.—R. C. AIKIN, in *American Bee Journal.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JOHN BRYCE (Armadale, N.B.).—*Trading on the "Deposit System."*—1. We have all along continued to receive sums of money on deposit between buyers and sellers, the only reason for the non-appearance of rules on which the system is managed being lack of space in our columns. 2. Syrup food made in September last, "now having a slightly sour smell," may be brought into condition for use by boiling for a minute or so. 3. The sample of candy sent is over-boiled, and, consequently, so hard as to be of no use as bee-food.

H. NARRAMORE (Totnes, S. Devon).—*Pollen-laden and Mildewed Combs.*—1. As the pollen has been kept over winter, it will no doubt now be quite hard, and therefore useless to the bees in the coming spring. 2. If combs are badly mildewed and mouldy, they are unfit for use, but, if only slightly so, the bees will remove the mischief, and make them all right for using.

P. W. BROOKE (Sulby Lezayre).—*White Streaks in Granulated Honey.*—1. When explaining how to remove the white streaks from jars of granulated honey, we gave the only means of overcoming the trouble, and, if carefully melted, very little loss of flavour will result. It is also a fact that careful jarring-off, and storing the jars in a suitable place at as equable a temperature as convenient, are the only means adopted by those who manage to keep their honey fairly free from the "streakiness" complained of.

T. H. B. (Exeter).—*Imperfect Excluder Zinc.*—The perforations in square sample of queen excluder sent are altogether wrong. They are of no less than three distinctly different sizes, all of which are too large to prevent a small queen passing through. The second or oblong sample has perforations of correct size, but we prefer a space of three-sixteenths of an inch between them, as seen on page 58 of "Guide Book," the illustration being drawn exact to size.

P. J. T. (Somerset).—1. *Dealing with Foul Brood.*—Since no particulars are sent with regard to the extent of the mischief or to the virulence or otherwise of the attack, we cannot safely advise what is best to do. In any case, however, it is now too cold for removing bees from their combs and dealing with them as swarms; they would probably succumb altogether if confined for forty-eight hours without food in an empty skep. Let us know whether the attack of foul brood is a severe or only a mild one, and we will be better able to advise you. 2. *Using Honey and Wax from Diseased Hives.*—On no account should the honey be used as food for bees; neither is it safe to use the wax got from the combs for fastening foundation in frames. 3. If it is finally decided desirable to get the bees off their present combs in the endeavour to cure them from foul brood, they must be fed as rapidly as they will take the food, but the end of April will be early enough to attempt a cure, if at all.

SAM MASON (Worcester).—*Direct Queen Introduction.*—The "direct introduction" method is carried out by confining the alien queen quite alone and foodless for a period of thirty minutes, then going to the hive and quietly lifting a corner of the quilt, allowing the queen to run down between the uncovered combs. The introducing takes place by lamplight, after darkness has set in, and the hive is not disturbed for forty-eight hours afterwards.

C. JAKES (Walsall).—*Dead Bees on Floor-boards.*—If the quantity of dead bees found approached anything like "a large shovelful," as stated, the hive should be examined to ascertain how many seams of bees remain alive. It is not uncommon, however, to find what seems an alarming number of dead ones in the early months of the year—owing to winter losses inside the hive—without any serious results following.

"MARECHALE" (Cromer).—*Non-Swarming Hives.*—We understand that Mr. W. P. Meadows, Syston, Leicester, manufactures the particular hive you name.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

ANNUAL MEETING.

The annual general meeting of the British Bee-keepers' Association will take place in the board-room of the R.S.P.C.A., 105, Jermyn-street, S.W., on Thursday next, the 22nd inst., at 4 p.m.

A conversazione will be held after the close of the general meeting (about 6 p.m.). Members desirous of introducing subjects for discussion, or submitting new or improved appliances, are requested to communicate with the secretary as early as possible.

DERBYSHIRE B.K.A.

ANNUAL MEETING.

The annual general meeting of the above association was held on Friday, the 2nd inst., at the Y.M.C.A., St. Peter's Churchyard, Derby, under the presidency of Mr. Alderman J. L. P. Barber, J.P., C.C., Mr. Giles in the vice-chair, and amongst those present were Messrs. Coltman, J. Rowland, T. Richardson, S. Durose, J. Pearman, Pilkington, T. W. Jones, Handby, Poulson, and F. Walker (hon. secretary), who presented the report and balance-sheet relative to the working of the association in 1899. After referring to the past bee-season, the annual show, and the experts' visits to members, the report went on to state that in connection with the Association, County Council lectures had been given at Doveridge, Longford, Stapenhill, Duffield, Church Gresley, Old Whittington, Osmaston-by-Ashbourn, and Derby, and the total attendance reached 530. The lectures had been exceedingly well received, and questions of a practical character had been asked and answered. The committee desired to express their thanks to the County Council for the liberal grant they had received from that body. It was gratifying to notice that cases of foul brood had been fewer and not so severe as in preceding seasons. The balance-sheet showed an expenditure of £69 2s. 9d., and receipts £67 19s., thus leaving an adverse balance of £1 3s. 9d. After some remarks by the chairman the report and balance-sheet were unanimously adopted. The Duke of Devonshire, president, and the vice-presidents were also unanimously re-elected, as was also the chairman, Mr. Alderman Barber, together with Mr. Giles, vice-chairman, and Dr. Copestake, hon. treasurer. Mr. Francis Walker, hon. sec., although wishful to retire owing to urgent business engagements, after some friendly pressure was induced to fill the office for another year.

The chairman next presented the medals and certificates won by members during the past year. After which the meeting closed with the usual votes of thanks.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of February, 1900, was £709.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

BEE-KEEPING IN IRELAND.

In the agricultural report for Ireland just issued from the General Register Office, Dublin, under date February 2, Mr. R. E. Matheson, according to the *Globe*, states that the inquiries made in the preceding thirteen years relative to the extent to which bee-keeping is followed in Ireland, and the degree of success attained in this special branch of rural economy were repeated last year with reference to the season of 1898, and the results were remarkable. In 1890, at the request of the Irish Bee-keepers' Association, the form previously used for collecting information on the subject was varied in some respects, and additional details were obtained. According to the returns received, the quantity of honey produced in 1898 did not fall far short of double the average quantity for the preceding ten years. It was 37·8 per cent. above the quantity for the year 1897, the returns for which showed an increase of 39·0 per cent. as compared with the quantity in 1896. The quantity of honey produced, according to the returns, was 526,374 lb.; of this 162,525 lb. were produced in the province of Leinster; 156,525 lb. in Munster; 135,996 lb. in Ulster; and 71,318 lb. in Connaught. Of the 526,374 lb., 328,331 lb. were produced "in hives having movable combs" and 198,043 lb. "in other hives." It was stated that 219,123 lb. was "run honey," and 307,251 lb. "section honey." The number of stocks brought through the winter of 1898-99 amounted to 26,521, of which 13,382 were in hives having movable combs and 13,139 in other hives. According to the returns collected, there were 5,048 lb. of wax manufactured in 1898, of which 2,429 lb. were from hives having movable combs, and 2,619 lb. from other hives. The returns received in 1898 gave the quantity of honey produced in 1897 as 382,030 lb.; the number of stocks brought through the winter of 1897-98 as 21,796, and the quantity of wax manufactured in 1897 as 4,355 lb.

BEE-KEEPING IN FRANCE.

TRANSLATED AND ADAPTED BY R. H. HAMLYN-HARRIS, F.R.M.S., &C.

During the years 1895, 1896, and 1897, the total statistics of honey, wax, &c., in the eighty-seven departments of France amounted to the following figures:—

Number of hives of bees, 1,600,303.
Production of honey, 7,316,400 kilos.
Total value of honey, 10,099,951 fr.

Average price of honey, 1 fr. 38 centimes per kilogram.
Total production of wax, 2,147,442 kilos.
Total value of wax, 4,686,940 fr.
Average price of wax, 2 fr. 18 centimes per kilo.

(1 kilogram = 2 lb. 3¼ oz.)
(1 fr. = 10d.)

The department known as Ille-et-Vilaine contains the largest number of hives, namely, 96,260, and yet in spite of this only produces 421,074 kilos. of honey of a total value of 387,388 fr. and 92 cents being the average price per kilo. against the Dep. du Côtes-du-Nord, having only 65,000 colonies of bees, but which, nevertheless, produces 500,000 kilos. of honey of an average price of 1 fr. per kilo. Comparing the figures of wax, we also find a great difference, which is rather surprising.

Ille-et-Vilaine production of wax, 79,282 kilos.
Côtes-du-Nord production of wax, 200,000 kilos.
The average price in the latter department being 2 fr. 50 per kilo., compared with 2 fr. 63 in the former.

The department of the Seine possesses the least number of hives of bees in France, viz., 205, with a production of only 312 kilos. of honey, yet at the fair price (compared with many others) of 1 fr. 75. As to wax, the total production is 189 kilos. at 1 fr. 49 per kilo.

The lowest price for honey was obtained in the Ariège department, and consisted of the low figure of 20 centimes per kilo. For wax the lowest figure stands at 93 centimes per kilo, against the department of Loire Haute. Charente Inférieure succeeds in gaining the highest price for honey—2 fr. 50—and also for wax, 3 fr. 75 per kilo.

As to imports and exports of live bees, the following figures may be found interesting as enabling us to compare these with our own :—

Imports.	1897.	1896.	1895.
Hives of Bees	507	577	399
Actual value in francs	7,352	7,798	5,985
Exports.			
Swarms of Bees	959	517	214
Value in francs.....	13,906	7,238	3,210

The *importations* of vegetable and mineral wax are considerable as compared with those of pure beeswax. The *exports*, however, of the former are far behind those of the latter.

How many Years can a Colony of Bees Flourish without New Combs?

A French bee journal mentions a bee-keeper at La Vicomte sur Rance who had forty hives, in the midst of which stood the original parent stock, which had occupied the same position for thirty years. It was only a skep with fixed combs, as all are in this part of the country; but for all these years it had produced at least one swarm every year, often more, except in 1898, when so many hives did not swarm. The combs are dark brown, or rather black, very tough and flexible.

The bees are very active, and the hive itself is in good condition, and its owner has expressed a wish to keep it as long as he lives. —*L'Apiculteur.*

An Algerian Recipe for "Nougat de Monétlimar."

Place 2 lb. of the whitest possible honey in a flat-bottomed stewpan, and stir constantly over a very slow fire with a strong wooden spoon. The honey must not be allowed to boil; the slower the fire the whiter the nougat. When the honey is firm throw in the whites of five eggs (beaten to a stiff froth), stir them rapidly and thoroughly into every part of the cooked honey, care being taken that the white of egg does not burn. Before shaping the mass, prepare 1 lb. of sweet almonds, blanched and dried gently in the oven, ½ lb. of pounded sugar, to which two or three drops of essence of lemon or neroli must be added. Warm and mix all together over a gentle fire, taking care that the nougat does not take any colour.

The original recipe directs the nougat to be spread on nettle leaves and covered with them. I must, however, leave this to the taste of my readers.—*L'Apiculteur.*

BEE-KEEPING, VIEWED BY AN AMATEUR.

There is one side of apiculture which has not been exploited in our bee periodicals to the extent which has obtained in the race for perfection, as viewed by the professional bee-keeper, and yet a great part of our devotees are of the amateur class—men and women who keep bees chiefly for pleasure and study, and only incidentally to produce honey. That this class of bee-keepers view our pursuit somewhat differently from the man in pursuit of dollars and cents must be obvious.

The amateur is not tied down to make his living, either partially or wholly, from the management of his colonies, and follows the "fad," if we may so term it, mainly for the pleasure, recreation, instructive study, and genuine enjoyment which the keeping of a limited number of colonies affords. It will thus be seen that the keeping of a few colonies of bees offers many inducements to him who looks after them, and, unlike other hobbies, is scarcely ever a drain on his purse; on the contrary, it frequently augments the same.

Bee-keeping appeals to the amateur, first, in the study of the insect in a scientific capacity, its anatomy and object and function or natural history. It is superfluous for me to enter into details of a study which has been so carefully and ably elucidated in Frank Cheshire's great work, but the enjoyment derived by every bee-keeper from the investigation of the marvellous structure of our bee and the

adaptability of all its organs to the uses for which they are intended is a never-ceasing source of enlightenment of the sublime in creation. The entertainments of microscopical observation of our Philadelphia Bee-Keepers' Association during the winter months, I feel safe in saying, have been an enjoyment as well as an instruction to its members, for there is sufficient zest in the pursuit of this study, in determining the status of a few of the organs of our pets, which, despite the careful observation and investigation of scientists, seem to battle scrutiny in determining their exact and positive service. Another side-light of the natural history of bees is their unconscious labour in the fertilisation of flowers, making a rather pleasant study of their habits in spring and summer time.

Fully as instructive and enjoyable is the study and observation of the interior economy of the hive ; perhaps I may add that it is the chief attraction holding the amateur steadfast in the rank of the bee-keeping fraternity.

Nowhere has the fascination of this part of bee-keeping been expressed in more beauteous language than in the Rev. L. L. Langstroth's masterly work—he who was the father of bee-keeping, whose name shall endure for all time.

In viewing bee-keeping from its practical side, there are only a few minor considerations which do not also apply to the professional's view for its betterment.

One of the points which has quite a future, and has not received the thoughtful, fostering care and impetus it deserves, is the production of beeswax. The commercial value of beeswax has been rather overlooked by bee-keepers. The persistency with which this product of the bee has been adulterated in commerce, and the untiring efforts put forth by chemists to find a substitute for it, as used in industrial arts are conclusive, though negative, proof of its value. If the same thought and experiment as applied to increasing the production of honey per colony were applied to the production of beeswax, I believe the possibility of managing apiaries for this product alone would result therefrom.

The decadence of the observatory hive is something which the amateurs should rectify. It is strange that this hive should have almost disappeared from our supply manufacturers' catalogues. There ought to be no well-regulated apiary, whether it is a professional's or amateur's, without at least one of these hives. Its very name is prophetic. By its use much knowledge of the habits of bees can be obtained which never can be acquired in any other way, notably the action of the bees in comb-building and the elaboration of wax.

The breeding of queens has reached a point where the requirements of professional and amateur seem to diverge hereafter. It now appears that the professional bee-keeper will want queens strictly for business only ; the keen competition in producing honey for the market has made this an imperative necessity, and a correct one also. Not so with the amateur ; he wants bees for beauty, a few pounds of honey more or less does not dim his vision—he wants fine-looking bees. We all know that the beautiful five-banded golden Italians, and the gentle and handsome albino variety, do not embody what might be called the acme of honey-gatherers, but I think all of my fellow-members have noted, at some of our local gatherings during the summer time, the pride with which the owner of these handsome bees has exhibited them, and the longing look cast their way by those less fortunate in possessing their equal.

We of the amateur class are, with few exceptions fond of bees presenting a beautiful appearance, and the queen-breeder must not lose sight of this fact in catering to the wants of this large class of bee-keepers in the future.

The improvement of our stock is of vital importance, and the improvement attained up to date is truly marvellous, considering pranks which Nature plays on us in the fertilisation of queens.

In the breeding of animals and plants man's superior knowledge and skill have wrought wonderful changes in adapting both to his uses and profit. He has, for instance, produced horses for speed, and horses for draft purposes, which differ as widely in appearance as they do in the uses for which they are intended, both kinds having been produced by careful selection of adaptable breeding-stock. In the matter of cattle, numerous breeds have been developed, and as regards poultry, the different strains and varieties are almost too numerous to mention.

In the vegetable kingdom the improvement attained by the horticulturist from the fertilisation of flowers and the raising of seedlings, resulting from the skill of his selection of parentage has been truly startling, and vastly surpasses the changes produced in the animal kingdom. A comparison between our cultivated flowers, fruits, and vegetables, with their progenitors, growing in their native habitat, will exhibit changes which are not easy of comprehension, and seem doubtful of veracity to the beholder.

With facts thus accomplished by careful selection and breeding, the possibilities of improving our strains of bees would be a foregone conclusion, provided the apiarist were able to control the mating of queens and the selection of individual drones for that purpose. We are aware how the workers in one colony are not all alike, and the queens produced from one mother do not resemble each other exactly ; so do the drones of a colony differ in many essentials, and I believe more so than do the workers. If it were possible to select the breeding-drones, not as a body, but individually, it would not be long before we would have bees with longer tongues, bees with greater wing-power, and bees better adapted to withstand atmospheric changes of temperature. This problem ought to be, must be, and

in all probability will be, solved at some future date. With the present uncertain practice of selecting the drones of one colony as a body in the hope that they will constitute the stock for breeding purposes, it appears to me that the drones are judged too much by the merits of their sister workers. It must be borne in mind that the drones of a colony seem to be the product of a previous generation, and the characteristics of the colony from which the queen has sprung is the one to look to for a guide of the collective value of her drones. How many queen-breeders keep any such record? I think but few. In the rapid interchange of breeding-mothers through the mails, what guide have we of her parentage, or, rather, of her fraternal comparisons, of which her drones appear to be a reproduction? I can safely answer, not much to boast of; we work considerably in the dark; but we must seek the light, and endeavour to improve our understanding, and progress will crown our efforts whether we are professional or amateur bee-keepers. — *American Bee Journal.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

CYPRIAN BEES:

THEIR TRUE CHARACTER.

[3927.] In furtherance of the earnest efforts I am making to place before your readers the true character of the pure Cyprian bee, and thus induce both lady and gentlemen bee-keepers to give it a trial in their apiaries, I trust you will allow me to offer a few hints upon the proper management of this race of bees, as follows:—

It is well known by all who have had any experience, that successful bee-keeping is not a matter of chance, and that the greatest success is attainable in localities where good bee pasturage abounds, combined with the employment of the best race and strain of bees, combined with the necessary knowledge how to properly manage them.

It is no less well known that to secure the best results the most improved methods of management must be followed, not only by adopting the modern bar-frame hive and the latest improvements in appliances, but by keeping the respective colonies always strong in bees. To attain this last-named object I need hardly say it is necessary to have at the head of each stock a prolific and vigorous young queen bee of superior race, which alone can ensure the production of the greatest possible number of hardy worker bees, ready for the first honey income of the season.

On the other hand, experienced bee-keepers are well aware of the great difference there is between the various races of bees with regard to industry, hardiness, and quietness of disposition. Nor do I think it will be disputed that some of the best authorities in the United Kingdom agree that Cyprian and Syrian bees are the most prolific of any known race. Referring to Cyprian and Syrian bees, the author of the "British Bee-Keepers' Guide Book," after remarking on their beauty and handsome colour, says:—"They are extremely prolific and excellent honey gatherers;" but he adds that some colonies are "vindictive and difficult to handle," "some being gentle and others very vicious. . . ." Respecting the last-named feature, I have no hesitation in saying that, as far as the Cyprian bee is concerned, it is a regrettable misapprehension or error on the part of the author, resulting, as I believe, from the mistake or careless faults of some of those who, during the years between 1878 and 1883, supplied bee-keepers in the United Kingdom and America with large number of Syrian queens (which race is known to be both vicious and vindictive) along with Cyprians. Indeed Syrians were often inadvertently kept in the same apiary along with Cyprians, and were often supplied instead of the latter kind to customers. Unfortunately the bees of these two races are so nearly alike that in outward appearance no one could possibly detect any difference between them.

It is, therefore, to my mind quite clear that, through such inadvertence or worse, the pure Cyprian has suffered great injustice in being described as varying in temper, "some being gentle and others very vicious." If it was admitted that two distinct races of bees were being dealt with, we can understand how the injustice has been unwittingly done. Fortunately, however, a more general experience having recently proved to many bee-keepers in the United Kingdom the fact that pure Cyprians can be more easily handled than Ligurians, I can, therefore, add their testimony to my own long experience to show that the "gentle colonies" alluded to by the author of the "Guide Book" are certainly those of pure Cyprian race, the clear inference being that these bees possess the desired good qualities if kept pure and separated or distinguished from the Syrian race.

This being so, I ask my readers to bear in mind (1) that Cyprus is an island in the Mediterranean, about 150 miles distant from Syria, and (2) that the Syrian bee is entirely different and distinct from *the sole race of bees now existing in Cyprus*, the latter being as gentle as they are industrious.

(*Conclusion on page* 106.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The apiary illustrated below is one which should go far to prove that "surroundings" have less to do with success in bee-keeping than most people suppose. A bee-garden (?) situated close to a coal mine does not promise well for the production of clover honey of a quality that can win first prize at a County show. Yet this is what our friends Messrs. Scougall & Robinson have done. Nor can it be other than gratifying to read of a bee-keeper who is daily employed in a coal-pit finding his great "source of pleasure" in spending his leisure time among the bees. We congratulate Mr. Scougall on his choice of a home hobby, and the interesting account he is able to send us is as printed below. He says:—

"Being readers of the B. B. JOURNAL, and very much interested in the 'Homes of the Honey Bee' that appear therein, we could not help admiring the beautiful places comprised in the bee gardens, where the hives stand surrounded with shrubs and trees. This being so, it occurred to us that as we were getting a photo of our apiary taken by an amateur friend, it might possess some interest for readers, even by way of contrast, to send you one in order to show that bees can be kept in very unlikely and unpromising places so far as regards honey gathering. We commenced bee-keeping near the end of 1897 with one hive, and, as will be seen in photo, the hives are situated about thirty yards from a coal pit (one of the largest in the district) which is being worked every day, but this does not seem to affect the bees in any way, nor do any damage to honey by dust from pit. In proof of this, I may say that we took the first rack of sections off our hives sooner than any one in the locality that we heard of. We also took first prize for clover honey at the Gateshead Flower Show, the bee department of which was under the auspices of the Northumberland and Durham B.K.A. We have at present seven stocks, which we hope to increase in the spring of the year, but we do not wish to increase too rapidly, preferring to do so as our practical knowledge and experience in bee-craft progresses. We also make our own hives, all of which have single walls, for lightness and portability in carting to the moors. The bottom box or brood-chamber is made from yellow pine ⅞ in. thick, and holds ten standard frames. the surplus-chamber being of ⅞ in. stuff, 11 in. deep, and holds two racks of sections, twenty-one in each, leaving about 2 in. for covering to go on top of sections. It will be seen that

MESSRS. SCOUGALL AND ROBINSON'S APIARY, BEDLINGTON STATION, NORTHUMBERLAND.

all our hives have the cottage-shaped top, with the exception of one, which has a square top with a 2 in. fall to run the water off, and as this hive occupies less space and is much steadier on the cart when going to the moors, we shall make all others in future like it. Regarding honey in our district we rely solely on the white clover, there being scarcely any fruit trees in the neighbourhood, but if we do not get honey so early in the season, as our brethren in the south do, we are compensated for this by the heather honey later on, an excellent crop of which we got last season, and disposed of at from 1s. to 1s. 6d. per section, according to quality or grade. Regarding the profit and loss account of our apiary, we regret not being able to give you an account, for none has been kept in the past. In fact, we have been content to meet the expense as it came in and divide the produce as it was removed from the hives. We have, however, determined that in future we shall make up a balance-sheet at the end of the year for our mutual satisfaction. Regarding our management of bees we began by purchasing a copy of Cowan's 'Guide Book' to start with, and this, with the help of some bee-keeping friends, sufficed for all purposes. We have done very well so far in the practical work of the apiary, though last season we unfortunately retained three old queens, with but very poor results, but as we have requeened two colonies with Carniolan queens, and joined the others up respectively to nuclei headed by young queens, which we had prepared for the purpose, the result is that all our stocks for the year 1900 have young queens at their head, a condition of affairs that we mean to keep. Our information on bee matters through the season is obtained from the B.B. JOURNAL every week and *Record* every month. I may also say that we are members of the Northumberland and Durham B.K.A., so that we are keeping well in touch with both the literature and our brethren of the craft. The boy in photo is my son, who takes a great interest in the bees, and he is also commander-in-chief of the 'errand department,' and will, no doubt, follow the craft in time to come. My partner, Mr. Robinson, is not seen in photo, as he was away on business when it was taken. For myself, I may say that, working as I do in the coal-pit referred to, I have a good deal of leisure time, and in this the bees are a great source of pleasure. My partner having a business of his own, you may be sure that during fine weather we spend a good deal of time among the bees. At the other end of the ground where hives stand we have a workshop, 14 ft. by 8 ft. in size. Here is fixed up fireplace, work-bench, and plenty of joiner's tools, so that whatever the weather, we can do anything required in the apiary in the way of making or mending. I conclude by wishing your BEE JOURNAL and *Record* every success."

(*Correspondence continued from p.* 104.)

The slight differences in temperament of individual colonies (inseparable from bees of any race of bees) are due to accidental circumstances, which an intelligent bee-keeper can easily correct and overcome.

In saying this much, I do not imply that Cyprian bees have no sting or that they never use their weapon, because, if this were so, they would be worthless. But they use their weapon only when they experience direct hostility. And I contend that they are never disposed to sting when properly manipulated and treated. I use these last words advisedly, because in all bee-operations it is necessary to proceed cautiously, gently, and intelligently, in accordance with the instructions of the best authorities, and, if this is done, the bee-keeper may, when, dealing with Cyprians, almost dispense with the use of smoke, which, besides being an unnecessary trouble to the operator, is a great nuisance and very disagreeable to the bees under treatment.

I have twenty-two strong colonies now in my apiary, and I manipulate each of these about once every three days, commencing from April 1 to end of October. The hives are placed in a single row, and stand only 7 ft. away from the windows of the sitting, bed, and dining rooms of the house in which I am living. My children always play and swing in the garden near the hives, and have never been stung except on one occasion, when my little boy playfully tried to bring out the bees by poking a stick into the entrance, and so got a valuable lesson. I have during the last sixteen years manipulated more than 200 colonies of bees belonging to myself and others, and I have found almost all of them to be as gentle as bees well can be.

I never use smoke or any other irritating means of terrifying bees, except when I transfer bees and combs from native hives to those with movable frames, and when uniting two or three colonies into one; and the method followed, combined with some other details of manipulating (about which I hope to write later on), keeps them in good temper and on friendly terms with the bee-keeper. Nor do I find it necessary to wear a veil; in fact, during seven months' continuous manipulations for the multifarious purposes of queen-rearing and packing bees and queens for shipment, &c., I have never worn one, or used any protection whatever from the bees, nor do my children ever use a veil, though they often help me when operating among the bees.

Now that pure Cyprian queens are being supplied early in May and June direct from Cyprus, I hope they will get a fair trial at the hand of British bee-keepers, who will thus have secured one of the best means of increased honey production to meet as far as possible the amount required by their own world's best market, and so keep out the foreign product imported.—M. G. DERVISHIAN, *Nicosia, Cyprus, December* 27, 1899.

Queries and Replies.

[2350.] *Preventing Vagrant Swarms from Entering House Roof.*—I have lately cleared out and destroyed a stock of bees which had ensconced themselves under the tiles of a house where they were a nuisance. It was not possible to save them. Can you please tell me if I can, by use of carbolic or petroleum or anything else, so make the place offensive to bees (not to people) that another swarm may not come there next summer?—A. H., *Hants, March* 7.

Reply.—If the aperture by which the bees entered can be covered on the inside by a piece of calico, the lower end of which was immersed in a dish containing a strong solution of carbolic acid (to keep it damp), it would prevent the entry of any vagrant swarm.

[2351.] *Fixing Foundation in Sections—"Glassing" for Market.*—1. Could you give in the B.B.J. a few lines on the best method of fixing foundations in sections, both plain and split-top ones? I would like to know of an easy method that did not require a lot of costly appliances, but would suit those who have small apiaries and be beneficial to many readers besides myself. 2. It would also be most useful if friend Woodley or any other reader would give their method of "glassing" sections, as I find it a very tedious job and rather messy when done. The advice, if kindly tendered, might take this form: 1. What adhesive to use. 2. Method of applying the same, with cleanliness of finish. 3. Width of lace or band or any other material used and a full detailed description of the whole job.—One Willing to Learn, *Kettering, March* 6.

Reply.—1. If simplicity and nominal cost is mainly sought for, you can bend a common spoon as shown in cut, and attach the foundation to top of section by running hot wax along its upper edge by means of the bent

spoon. 2. If Mr. Woodley will favour our correspondent as desired, we will gladly publish his instructions, though we fear a good deal of the "messiness" of which our correspondent complains may be due to the operator.

[2352.] *Hive Bodies with Frames to Hang Both Ways.*—1. I ordered from an appliance manufacturer (who promised to make for me as ordered) a hive capable of holding frames either from front to back or from side to side—*i.e.*, parallel to the entrance—as desired at different seasons. I prefer frames hanging from front to back in summer, and parallel to entrance in winter. Now, despite the maker's promise, he has supplied me with a hive that will not allow of the frames being hung in this way at all, but only parallel to entrance, as wanted in winter. I shall have to make that suffice, I suppose, as I don't want to appear "faddy," but is there any firm that you know of that supplies hives capable of taking frames both ways as I have described? 2. Should you call the illustration enclosed one representing a hive having frames running parallel with the entrance? That is what I particularly wanted in the honey season, but in the hive in question I have not got it; the frames will only run from side to side, which I presume is parallel to the entrance. Of course that is what I wanted for winter. 3. May I also ask if, in carrying out your instructions *re* "Transferring to Frame Hives" from skep, in reply to query given in B.J. of February 1 (2330, page 47), whether, after skep with bees has been placed on top of frames, the entrance to skep should be stopped? I presume so, as you say "cover the skep" with roof. If I am right in my surmise, of course bees would have no other exit or entrance but that of the frame-hive.—Juno, *Camberley, March* 10

Reply.—1. As a matter of fact, the firms who may be safely relied upon to make a hive (with outer case, of course), in which the brood-chamber may be placed with its frames hanging either way if so ordered, are so numerous that we need not particularise. Any of our advertisers would do it. 2. The illustration on cutting sent shows frames running from front to back or at right angles to entrance. 3. Yes, the skep entrance is at once closed, and bees forced to pass through the frame-hive.

[2353.] *Combs Damaged by Wax-moth.*—What can I do to a lot of last year's combs? I packed them away carefully, yet when I examined them last week I found the wax-moth had been very busy amongst them. 1. Am I to melt them down, or can I clean them out in some way? 2. Are the black specks eggs or excreta of the grub?—Tom Nicholls, *Neath, February* 26.

Reply.—1. If combs are much damaged about the division-wall—or mid-rib—they are only fit for melting down. 2. The specks referred to are excreta only.

[2354.] *Uncapping Sealed Combs for Feeding.*—I am wishful of feeding my bees later on in the spring, and as my hives yet contain a large amount of sealed stores, it seems a pity to go to the expense and trouble of making syrup. The "Guide Book," upon recommending to uncap sealed stores, says nothing as to the part of the hive in which the uncapped comb must be placed; nor is the quantity of honey to be uncapped at one time mentioned. What is your advice?—Clumber Spaniel, *Andover, March* 8.

Reply.—When uncapping sealed stores in

hives for stimulating early breeding, the food in upper part of combs on which the bulk of the bees are clustered, is first used by bruising the capping for an inch or so down on both sides of one comb about twice a week. So long as there is plenty of sealed food in the hive stimulating need not begin till the first week of April.

[2355.] *Stocks Dying from Famine.*—In looking through my hives to-day I found two or three stocks dead. I herewith send you a sample of brood and grubs taken from one of the hives. I am inclined to think it is not foul brood, but that brood is simply chilled. A reply in the next issue of B.B.J. will oblige.—APIARIST, *South Yorkshire, March* 12.

REPLY.—Comb received shows plainly a case of death through want of food. The sealed brood in cells is "simply chilled" to death, as you suppose. No sign of disease.

[2356] *Cleaning Rusty Tin Appliances.*—1. Can a "honey ripener" now very rusty, be re-tinned without rendering it unfit to contain honey? 2. If not, what is the best thing to clean it with, especially the bottom parts, which are out of reach?—*West Kent, March* 7.

REPLY.—1. We do not think the appliance referred to can be "*re*-tinned." 2. The parts within reach may have the rust more or less removed by scouring, just as an ordinary tin pan is cleaned, but for the parts "out of reach" we cannot afford any helpful advice beyond getting in reach of them.

BEES IN A CAMERA.

According to *Success*, "A young man had a camera, which he kept in a third-story room of his home. One morning he decided to go out and take a few photographs, but when he picked up his camera he was surprised to find half-a-dozen bees flying about it, and as he proceeded through the room, a whole army of the insects came in a line out of the small opening in the black box cover. A swarm of bees, which had come in through the open window, had made a hive of the camera. The bees, our contemporary says, have been dismissed as tenants, but the camera will have to be overhauled before any more pictures can be taken."

COMB HONEY PRODUCTION.

To obtain strong colonies by the time of the honey-flow is one of the great problems. The time of the flow must be known, and all must be planned for that time. There are localities where the crop-yielding nectar comes in the late summer or fall, and in such case it is easy to get the colony ready to do good work; but for an early summer flow from such source as white clover we usually cannot get ready too soon.

One great difficulty in harvesting good crops of honey is to keep the colony from wasting strength in swarming. If we could *surely* control swarming so as to have it come when we wished, and not till then, we would make a great step forward. The colony that swarms becomes too weak to do much in storing surplus, and the swarm, too, must be hived in a contracted hive to be in shape for good section-work, and even when in a contracted brood-chamber the flow must be fair to very good if we get satisfactory work.

White clover being the most common source of nectar, we will study principally from a clover standpoint, and choose the latitude of southern Iowa and figure on dates that correspond to that, so those living farther north or south, or if for any other reason the season in the readers' location should be earlier or later, just make the proper allowance. As the clover will advance just about the same in a given time when once started in spring, so you make your estimates.

In southern Iowa spring may be expected to begin about March 1, and white clover to mature and be ready to yield nectar about June 15. In southern Missouri the dates would probably be two weeks earlier, and northern Iowa say two weeks later. Seasons vary from year to year, and crops mature fast or slow as the weather conditions may favour or not, yet each one can approximate very closely by a little observation and thought.

Having reached the opening of spring, the object is to get the colonies to breeding well so as to build up to good strength as soon as possible. If wintered in the cellar there should be hatching bees near March 1, and the same when wintered outdoors if the winter has been an open and warm one. Usually southern Iowa finds a little brood started in the centre of the cluster by January 10 or 15, in strong colonies, and by the middle of February in all fairly strong ones. Weak colonies that cannot get up enough heat must wait till the weather is in their favour.

Thus it comes about that some colonies are away ahead of others in breeding up in the spring. Much depends upon how the colony goes into winter, whether weak in bees, or with plenty of strong, young bees, or old and feeble, &c. Two colonies may go into winter with an equal number of bees, while if one has many old and but few young, while the other has the reverse, the young colony will outlive the old, and care for more brood in the late winter and early spring.

Then, too, one colony may have sufficient ventilation to carry off surplus moisture, and the next one be poorly ventilated and become wet, weak, and diseased. But whatever the cause that makes the colonies unequal when they start breeding in late winter or early spring, if they do not get an equal start they cannot give equal results. Perhaps three things are in the main to blame for the un-

equal start, viz.: Going into winter in varied conditions as to age and number of bees; variations in ventilation, allowing accumulation of moisture, thus affecting the health and life of the bees; and, third, the disposition and proportion of honey, pollen, and empty comb.

It is desirable and important to have the colony even and in normal condition in the fall and winter, if possible, and if so we may expect much the same in the spring. Should the colony come out at the opening of spring with but a handful of bees, or so few in numbers that they cannot get and hold heat to hatch eggs and mature brood, all they can do is simply to wait for warm weather, and when waiting they often pass to the "long wait." I want a colony to have hatching bees by the time they begin to forage in early spring, for those young bees remain close to the hive and brood nearly all of the time, and very much help on the breeding work; but should there *not* be hatching bees when spring foraging begins, then the death-rate soon leaves the colony in that weak waiting condition, and, no difference how good the queen, they *cannot* increase.

As before stated, it is natural for the colony, with sufficient strength or number of bees, to begin breeding in January, at least early in February. Bees should be hatching by March 1. Spring opening about March 1, and young bees then emerging, the colony is practically safely wintered. Up to this time honey should be close to the cluster, and in very easy reach of the bees, so they can have unsealed honey in the cluster at all times. After the weather is warm enough so they can almost daily get out from the cluster to uncap and carry in honey, it is not so important that the stores be in so close proximity to the cluster.

I take it that most locations have early pollen, such as maple and willow, also a little honey too. That was the condition in the part of south Iowa in which I used to practise, and in such breeding goes on about as well if the colony be let alone, probably better, than if meddled with. They need the encouragement of warmth and a little fresh pollen, and if *dry* and warm, breeding cannot be much helped by anything more we can do.

Should the location not have early pollen, and little or none is in the hive, then artificial pollen, such as flour mixed with bran or chopped oats, should be placed in easy reach of the bees in the yard, or may be put right into a comb close to the brood. The thing that will encourage rapid breeding, if there is sufficient heat, is pollen and unsealed honey, and with these plenty of comb that the queen can freely use.

As the season advances and the colony begins to have so many hatching bees that the birth-rate is freely gaining on the death-rate, then is the time that one may spread brood, *if it is done carefully*. The first act in that direction is to turn the combs rear end foremost—at least, the ones containing brood. The brood-nest is almost invariably started *next* the *entrance*. If the combs containing brood be turned front end to the back, keeping them in the same position to each other in other respects, the brood now to the back and the *honey* to the front—thus arranged the honey will be removed from between the brood and the entrance, and placed *unsealed* close around and above the brood, and the comb from which the honey has been emptied will soon be occupied by brood.

This manner of spreading brood is quite safe. It is really causing the colony to do the spreading, and for stimulating breeding it is almost equal to a honey-flow. It also has this merit, that combs will be filled from end to end with brood instead of nearly every comb having the front end with brood and the back with honey.

Read this again, and think awhile over it—it is a valuable "kink."—R. C. Aikin, in *American Bee Journal*.

TRADE CATALOGUES RECEIVED.

E. H. Taylor (late T. B. Blow), *Welwyn, Herts*.—Mr. Taylor has still further improved and extended for 1900 his already large catalogue by the introduction of many new illustrations, including several full-page fine half-tone blocks showing interior views of his extensive hive works and factory at Welwyn. In addition to a very full line of bee-keepers' supplies and several pages of "Hints on Bee-management," there is also a supplementary list of poultry appliances, including houses, incubators, hatching-boxes, and "foster mothers," all of which make up a big list of eighty-six pages full of useful and instructive matter for bee-keepers and poultry men.

George Rose, *Liverpool, Preston, and St. Helens*.—Mr. Rose (whose head office address is Great Charlotte-street, Liverpool) has also greatly enlarged his catalogue of last season. Indeed, in its present form the list before us is probably the "biggest" in size we have ever seen, embracing, as it does, a well-illustrated and comprehensive list, not only of bee-goods of all kinds, but of "everything for the garden" in shape of vegetable and flower seeds, with full cultural directions for growing them. With so extensive a list as the one before us, it we find it impossible to go into details, except saying that after procuring a copy the bee-keeper and the gardener will find every requirement provided for and priced at cash rates, which carry with them prompt delivery of goods.

R. Steell, *Wormit, Dundee*.—In his nicely got-up list for the present year, Mr. Steele mentions the recent extension of his old-established steam hive-factory and workshops, which, along with the stores at Gauldry, now cover nearly 9,000 superficial feet of floor-

space. As may be expected from one catering for Scottish bee-keepers, special prominence is given to hives intended for taking to the moors, all of them being practical and efficient for the purpose. The list also includes a couple of pages of "Hints and Instructions to Beginners in Bee-culture," compressed in thirty-three tersely-written paragraphs, which, as Mr. Steele is himself a practical bee-man, may be taken as reliable.

DAVID RAITT, *Blairgowrie, N.B.*—Mr. Raitt this year goes in for a large and well-illustrated catalogue (quarto size), introducing therein some good tone-block engravings of hives and one of his comb-foundation machinery, this latter product being one for which "Bee Croft," Blairgowrie, has long been famous. A couple of good heather-honey presses are also shown on page 17, which, along with a fully-illustrated list of bee-goods of all kinds and some fine engravings of tool-chests and cabinets of various make, make up an interesting and useful catalogue.

GUTHRIE BROS., *Alloway, near Ayr, N.B.*—This is still another Scotch firm, whose modest but well-arranged little catalogue comprises flower and vegetable seeds, fruit-trees, and plants along with bees, hives, and appliances. One of the Messrs. Guthrie is a certificated expert of the B.B.K.A., besides being a skilled gardener, and is thus well qualified to render help to customers in both branches of their trade. We also note that cultural directions are given for all seeds, plants, and trees.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. E. WALDEN (Wimbledon). — *Swarm Catchers.*—Various forms of this appliance have been illustrated and described in our pages from time to time, but the makers, we fear, usually stop short at giving instructions how to make them.

M. HOWELL (Jersey). — *Granulation of Honey.*—1. The higher the temperature at which honey is kept the longer will be the time before granulation sets in. 2. No doubt yours will become "thick and opaque like that seen in shops" in due time, if fermentation does not supervene, as is possible if honey was not fully ripe when extracted.

T. S. ELLIOT (Walthamstow).—The secretary of the B.B.K.A. is Mr. Edwin H. Young, whose office is 12, Hanover-square, London, W.

A. J. GIBSON (Truro).—*Experts' Certificates.*—Official particulars regarding these may be obtained only from the secretary of the British Bee-keepers' Association, whose address is given immediately above.

G. K. (Hornsey).—*Honey Samples.*—The sample sent is good in colour and consistency, but it is hardly up to "show" form so far as regards flavour and aroma.

L. F. LINOTTE (Birmingham).—*German and French Bee Journals.*—One of the best German bee-papers is the *Bienenwirtschaftliches Centralblatt.* Of French journals, *L'Apiculteur* and the *Revue Internationale d'Apiculture.* We will give full address of respective publishers when you make a choice of those desired.

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A FEW LEE'S "W.B.C." and HEATHER HIVES, also other Bar-frame Hives (as good as new) FOR SALE. J. SAWBRIDGE, Thatcham, Berks. 768

FOR SALE, BEE BOOKS.—Huber, 3 vols. (Paris, 1811); Schirach, 1771; Thorley, 1679. Bound and perfect. CAMPER DAY, Greystones, co. Wicklow. 765

24TH YEAR.—STOCKS on wired frames, £1; in hives, extra. SKEPS, 10s. 6d., 12s. 6d., 15s. ALSFORD, Expert, Blandford. 763

FOR SALE, about cwt. pure SUPER EXTRACTED HONEY, good colour, 50s. per cwt. Sample, 2d. What offers? Beaumont, Schoolhouse, Swavesey, Cambs. 764

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WHAT OFFERS for two Stocks in "W.B.C." hives; one Stock in 10-frame hive; one Stock in flat skep; and 30s. Extractor? Miss E. RUCK, Castle Hill, Cricklade. 769

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Editorial, Notices, &c.

USEFUL HINTS.

Weather and the Season.—The present spring, so far as it has gone, has been notable in following a winter chiefly remarkable for the absence of severe weather; yet of such a character as retards vegetation and keeps everything in the shape of plant-life at a standstill. Cold winds and an almost entire absence of sun, for months in succession, have been equally as effective as hard frost in stopping the growth of all the early flowers, which in the ordinary course are tempted into bloom by sunshine and warmth in February. Bees have thus been kept equally dormant with the early blossoms they love so well, and consequent on this general backwardness of flowers and half torpid bees, bee-keepers themselves have seemingly dropped into a state of semi-somnolency with regard to affairs in the apiary which, judged by our own experience, is in every way exceptional.

Much of the present slowness in making a move is no doubt attributable to the all-absorbing interest felt in the stirring events now occurring in South Africa, and, as matters of national import naturally claim the first place in men's thoughts, no complaint can be or is made. But, on the other hand, it is quite time we reminded our readers that their thoughts must take a turn in the direction of the apiary if they would not be caught napping. In other words, they must not forget that a day or two of continuous fine weather would work such a change as to startle them and promptly remove all sleepiness so far as the bees are concerned.

We are not surprised that bee-keepers have been slow to rouse themselves with regard to bee-work, seeing that, as a rule, they, in this respect, take their cue from the bees, and the latter have this year assuredly been slow at starting to gather pollen. We have known them to be labouring hard at this work from morn till eve in February even while located in the north, while it is common to see them comb-building and surplus-storing in April here in the south. But, as we have said, everything is behind, and these lines are written by way of offering a hint that the time has now come when dilatoriness must be cast off and work begun in earnest if the year's operations are to result in success.

Our correspondence up to now has been so remarkably quiet compared with what is usual at this season that we have not learned much regarding the way bees have wintered as a rule. Several reports have been received recording loss of stocks by death from starvation, but hardly an account is yet to hand dealing with the state of brood-nests. This is an item of work that will soon need general attention, and the first opportunity should be taken to get a glance at the condition of the bees, so far as regards food and the size of the cluster—*i.e.*, the number of combs covered by bees. No pulling about of the brood-nest is necessary in gaining this knowledge, a mere glance being sufficient for the purpose. Food is the main point, and where this is really short prompt attention in shape of a full pint of warm, thick syrup is a *sine quâ non*. For the rest, if there are plenty of bees, it may be safely assumed that there will be a fair proportion of brood also.

The rule in good management is to thoroughly examine every hive in the apiary before the end of March, but it will suffice at the present time to confine examination within the limits defined above, and defer the general overhaul until the weather becomes settled and warm. The rapid progress we expect to see the bees make in the course of a week or two should, however, be forestalled by the prompt action we have advised on the part of all bee-keepers.

Spring Robbing.—When the cold weather departs and bees begin working busily every day, a watchful eye must be kept on hive entrances where any undue commotion is seen. This is most likely to happen with weak stocks, and must be promptly stopped if possible, because the robbers will soon clear out all food from a weak hive if not seen to. In extreme cases it is advisable to close up the hive attacked and move it away entirely for a day or so, when the marauders may be too busily engaged in legitimate field labour to pay further attention to robbing.

(Remainder of "Hints" next week).

WORKING FOR EXTRACTED HONEY.

The articles on "Comb Honey Production" in our last two issues have called forth a request for a paper on "Working for Extracted Honey," as being of more than equal importance to the bulk of our readers. We have, however, already written very fully on this subject, therefore it will perhaps suffice to print in somewhat condensed and up-to-date form the article referred to as follows :—

It may be taken for granted that the weight of surplus a colony of bees will gather when efficiently worked for extracted honey is largely in excess of that which could be secured by the same stock labouring for honey intended to be sold in the comb. This fact is now so generally admitted that space need not be occupied in proving it, but so clearly was it demonstrated to our own mind several years ago, that, in face of some opposition at the time, we persistently advocated the advantage of working for extracted honey along with the use of a shallow frame for surplus storing. It is, therefore, with no little personal satisfaction that we to-day see the almost general adoption by bee-keepers of this method of working, while the 14 in. by 5½ in. frame (known as the "shallow-frame") is now regarded as a dual standard for surplus along with the 14 in. by 8½ in. Standard frame for brood-chambers.

While mentioning Standard frames—single or dual—we may here say a word on the vexed question of Single *v.* Double-walled Hives now receiving attention from advocates *pro* and *con.* First, then, we personally refuse to give countenance to or tolerate any attempt to ignore the British Standard frame, or alter its recognised measurement of 14 in. by 8½ in., with a top bar of 17 in. The benefits which have accrued to bee-keeping, to bee-keepers, and to hive-makers since its adoption by the B.B.K.A., have been so clearly demonstrated, that arguments on the point seem so much time wasted. Indeed, the extreme jealousy with which many of our best men regarded any attempt to alter the measurements of the "Standard" formed the main obstacle to our efforts in endeavouring to dissociate the brood-frame from that intended exclusively for surplus honey-storing. Having, however, made clear the point that a dual frame would be an all-round advantage; moreover, having retained the exact measurements of the "Standard" *minus* 3 in. of its depth, the shallow-frame is now accepted as advantageous for its special purpose by some of the most determined opponents of any interference with the dimensions of the former.

When stocks are being pushed forward in spring and syrup is being given for this purpose, it is essential to avoid having cells intended for brood filled up with more food than is actually required. Thus, when surplus-chambers are set on, the frames in the brood-nest below should be as nearly occupied wholly with brood as is possible, so that the lower chamber may be exclusively devoted to its legitimate purpose of brood-raising, while the bees are perforce compelled to utilise the combs given them overhead for storing honey as gathered. To attain this end some attention is needed by way of scratching the surface of sealed food on the upper portion and sides of the combs, to cause its removal by the bees to another part of the hive, and so induce egg-laying over as much of the comb-surface as we can, while getting rid of any surplus sealed food, which renders comb so occupied useless for brood-raising. The time for stimulating is, as we have already said, best gauged by the date when natural pollen can be had outside, and this will serve as a safe guide for any locality, north or south.

Some advantageous stimulating may be done—by *safe* hands—at this time in weeding out faulty combs by removing such—one at a time and at intervals of a few days between each removal—and inserting a full sheet of foundation right in the centre of the brood-nest. Eggs will be laid more rapidly this way than if ready-built combs are given, and so long as the operation is only performed when stocks are strong—covering, say, seven or more frames—no harm from brood-spreading will result. When honey begins to be gathered in perceptible quantities, and bees indicate the "comb-building impulse"—*i.e.*, when whitened edges appear on the combs, between top bars—surplus-chambers may be given, and in doing this it is worth noting what quality of honey is coming in. If from sycamores, or some other such inferior source, the bees may do a little comb-building while gathering it. Under such circumstances we therefore give frames with half-sheets of foundation; but if the finer qualities of nectar are within reach, full sheets of foundation or ready-built combs should invariably be given. A good stock of these combs, from which brood and pollen have been rigidly excluded, is so much valuable plant, to be carefully preserved year after year and kept ready for immediate use as required. Extra heavy combs may be secured, if preferred, by using fewer frames in the surplus-chamber and spaced further apart than usual, and for which wide metal ends are made and sold.

Queen-excluders are also indispensable in working for extracted honey. Even those who dispense with them below section-racks are agreed on this point, so we need say nothing by way of enforcing it. Whether the excluder be a plain sheet of perforated zinc of the usual long-hole pattern laid flat on the top-bars, or a honey-board in which the metal is framed, with bee-space below, be used, we care not, so long as the queen is confined to the brood-chamber below. After setting on the surplus boxes, carefully exclude the air from outside by slipping short lengths of newspaper, folded to form a knife-edge at one side, between the

junction of hive and upper chamber, to keep all as warm as possible. As soon as required, additional boxes may be given—whether under or over the one already on we won't stop to argue, except to say we have always set them "over No. 1," mainly to save trouble, and we think that is some gain; besides, honey for extracting is best ripened on the hive, and the whiteness or otherwise of the comb-capping is of no account in these cases.

EXTRACTING.—On this point it may first be said that the skill of the bee-keeper has no influence whatever on the quality of the honey gathered by his bees, except so far as the handling of the product goes. The bees of Giles, the labourer, kept, mayhap, in a half-rotten old straw skep, visit the same flowers and gather precisely the same nectar as do the squire's, there being neither aristocrats nor democrats among the community of *apis mellifica*. All that the "art of bee-keeping" does is to help the bees to "sort the stuff." However, we willingly tell all we know on the subject; merely premising that any one intending to keep a dozen or more hives of bees, will find it true economy to provide himself with a fairly good set of implements wherewith to do the work, for nothing so much aids us in this part of our work as *good tools*. Ours consist of an extractor, holding four combs; a "strainer and ripener," the upper or movable portion of which is of sufficient capacity to hold five or six gallons of water, and will, of course, contain a great quantity of cappings, from which the honey is day and night gradually dripping through the sieve into the receptacle below. It seems incredible how the honey drains through; but it does in time, and so none is lost. Then we have a lamp "knife-heater;" a couple of keen-edged knives, with blades 9 in. or 10 in. long, the points of which are curved outwards for about $1\frac{1}{2}$ in.*; a wooden "tray," with a raised edging $\frac{1}{2}$ in. high all round it, and near the left corner a couple of small pieces of wood nailed on so as to form an angle or rest, so—⌊—to keep the frame from slipping. Finally, we have a brown holland "blouse," which slips over and protects the clothes. A bowl of clean, cold water, for dipping the hands in, and a towel complete our "kit." Thus equipped, and with the boxes of honey piled one above the other, we prepare to start.

If the combs in box being dealt with are not built with a perfectly flat surface, we first with a pencil consecutively number the combs in each box, so that they may be replaced in the same order as built by the bees—experience will show the wisdom of doing this.

Many beginners complain of difficulty in extracting thick honey from the combs, a difficulty mainly attributable to bad uncapping, because that has a deal to do with extracting properly, cleanly, and rapidly. The annexed sketch shows the manner of holding the comb while uncapping. With a sharp knife just withdrawn from *hot water*, and a shallow comb held as in the sketch, the whole sheet of

wax capping may, with a little practice, be removed at one cut, without bruising or breaking the cell walls in the least. This is an important point, because if the cells are damaged the honey will not freely leave the comb as the cage of the extractor revolves.

The operator, grasping the "lug" of the top bar firmly in his left hand, places the lower end in the "rest," a knife is lifted from the hot water, and, after touching the blade with the towel to remove the drip, he leans the frame forward so that the sheet of capping, as it is severed, hangs clear of the surface of the cells, as seen in the sketch. When cutting, do not give the knife too much of a "sawing" motion, and endeavour to keep the blade just beneath the surface of the capping; when the top of the comb is reached, the capping will adhere to the knife long enough to allow you to drop it smartly into the strainer close by your right hand, ready to receive it. Stroke both sides of the knife-blade on the edge of the strainer to remove the adhering honey, and replace it in the hot water. We never use the same knife for uncapping more than one side of the same comb. It takes far less time to do the job than to describe how it is done; but to do it well requires both care and practice. There must be no "dragging" while the knife is passing upwards, or the cell walls will be all bruised in its passage, and, as before stated, the honey will not flow freely. As each comb is uncapped it is placed in the extractor, and when the four are inserted we at once start, using no care whatever as to speed, and giving no heed to the usual precaution against fracturing the combs by the too rapid revolution of the cage. Neither do we ever think of troubling to partly extract one side of heavy combs and then reverse them, only to turn them again before completing the extracting, as is so often advised. These precautions

* This is now known as the "W.B.C. uncappin knife.—[EDS.]

may be necessary when working with Standard frames; with shallow-frames no such care is needed. If the extractor has no cog-gearing, we get our top speed at once, turning the handle as rapidly as possible, and then, after allowing the cage to go by itself until it slows down, the handle is again seized and turned as fast as it can be made to revolve. About two minutes suffice to extract one side of the combs, when they are reversed, and the operation is repeated till all the frames have been gone through. When the space below the cage is full of honey the extractor is raised up on a box high enough to allow an earthenware "bread-mug" being placed below the valve tap. These mugs each hold about one hundred pounds of honey, and, when a piece of book muslin—not too fine—just wrung out of clean, cold water, is stretched over the mug, the tap can be so regulated as to run just as fast as the honey will strain through; it, therefore, needs no watching. As the mugs are filled a clean cloth is tied over each, they are then labelled and set aside in a warm place ready for bottling off after extracting is completed. When this is done the cage is removed from the extractor, the cylinder being washed out to remove all wax chippings, and it becomes a vat for bottling purposes.

Grading Honey.—This is another important point, and one which no careful bee-man can afford to overlook. When adding surplus-chambers the date on which each is given should be written on a card and tacked to it, so that a pretty safe guess may be made as to the quality of the honey each box dated alike contains, and quite a remarkable difference will be found in the value of the contents. By this simple plan the honey grades itself, and all that is needed is to select all the boxes of a given date when extracting, and keeping each lot separate for jarring off.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SPRING NOTES FROM LANCASHIRE.

[3928.] *Saturday, March* 10.—Beautiful bright sun, wind cold, but in the sunshine quite warm. From twelve to three all the bees out in great numbers, and the few crocuses, blooming in sheltered spots, filled with bees. Numbers of young bees playing in front of the hives. The present outlook decidedly promising for early swarms.

March 11.—To-day has gone one better than yesterday. No wind to speak of, and the sun bright and warm. Bees out by nine o'clock. Soon the crocuses expanded, and, as the sun wore higher, the number of workable flowers increased. About 11.30, seeing the eagerness and avidity of the bees, I filled the open and opening blooms with pea-flour. In ten minutes they were "cleaned out," and again I filled them, the bees eagerly taking it from the knife-blade by which I performed the operation. Three times before going in for dinner I replenished the flowers with the artificial pollen, and it was an amusing and instructive sight to see the thousands of bees trying to get at the unexpected "flow" of *farina*. In many cases I counted six and eight bees in a crocus, and an equal number trying to get in it. And no bad temper—a busy, good-natured throng, each anxious for a share, yet flying round and quietly waiting for a turn at the good things spread out. Coming back from dinner, I noticed they had toned down, and only a few hundreds were among the blooms. The reason was plain—the pea-flour had vanished. Fetching out the yellow-paper-covered canister, I replenished the flowers. In a minute thousands of busy workers thronged the scene, and in five minutes more the crocuses were empty. This went on till three o'clock, and half a pound of pea-flour had been carried off. As there were not above a hundred flowers expanded, one can picture what an animated scene it was. I purposely spilled some flour on the plants round about, and covered the leaves of the white arabis thick with it. This, too, was eagerly gathered. Let us hope that frosty nights will not undo the afternoon's stimulative work.

Tuesday, March 13.—Yesterday and to-day have been excessively cold. Monday very little sun and few bees out. To-day they have been out in numbers flying round the Sunday's happy foraging ground, but the crocuses, now largely augmented, remained closed, and, though the sun was occasionally bright, they refused to open out and spread a banquet for the bees. The night promises to be very frosty.—White Clover, *March* 13.

(*Correspondence continued on page* 116.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Buller, a portion of whose apiary at Hitchin is seen on next page, is one of the oldest of what may be called professional bee-men in this country; his experiences consequently have been full and varied. Nor is it given to many to know so much of every phase of bee-keeping, along with practical trial of hives of all shapes and types and bees of all known races, and this fact adds force to what is embraced in the following interesting particulars, written at our request. Mr. Buller says:—

"Regarding the particulars you ask for anent my bee-keeping experiences. I may

say they are varied, and began when a boy of ten years of age. My grandparents on both sides being bee-keepers I think I may claim the title of being called 'a born bee-keeper' of the active sort, for in addition to taking a good share of the work about the bees at home I was ever ready in helping others in attending to theirs, and in striving to abolish the cruelties of the sulphur pit. In 1855, my parents migrated from Suffolk into Hertfordshire, the removal entailing a sale of all the bees. The following spring, however, my father bought some swarms which were housed in the boxes known as 'Nutt's Collateral Hives.' Although still keeping up my interest in the bees I did not follow bee-keeping as a profession till 1882, when I accepted the post of manager to Mr. T. B. Blow, of Welwyn, one of the pioneers of the bee-industry. It was in the autumn of that year that I first made the acquaintance of the present junior editor while carrying a swarm of driven bees clustered on my hat round the show-ground at the 'Preston Guild' Show, held in that town at intervals of twenty-one years. In the following year the late Rev. H. R. Peel, then Hon. Sec. of the B.B.K.A., asked me to perform the same feat, and I carried the bees on my head round the town of Bridgewater on the occasion of the Bee and Honey Show held there, and I need hardly say, much to the amazement of the townspeople and police.

"During the ten years I was with Mr. Blow, besides acquiring experience in fitting up bee-farms in various parts of the world, I had every imported race of bees under my charge. And, after giving each race a fair trial I must say the English bee is, to my mind, the best, besides being most suited for this country. In 1886, we packed some stocks of Carniolan bees for South Africa, which arrived safe at their destination, a mission station, near where the present war is busiest. After working with, I think, almost every known make of hive from the Clay Cylinder of the East to the 'Ango-Cyprian,' with its diamond-shaped frame, I have, of course, my likes and dislikes. In my own apiaries I work the 'Cowan,' the 'W.B.C.,' along with the ordinary ten and fifteen-frame hives. Also 'Wells' and 'Ford-Wells,' and a few skeps. It will be seen from the photo that I am at work queen-hunting from a 'W.B.C.' hive, for a worn-out queen reared by myself three years ago, and I do not care to keep them longer. I only breed from queens which produce the best workers. In fact, I breed bees just on the same lines as I do fowls.

MR. G. J. BULLER'S APIARY, HITCHIN, HERTS.

"Last year was the best season I have ever had for honey, my whole 'take' weighing just over 19 cwt., several of my hives producing 150 lb., and one yielded 163 lb. of comb-honey. I only had one swarm during the year, and that from a bought stock. I always try to give enough room early in the

year. I never deprive bees so closely that they require feeding, nor do I ever cut winter-passages when packing for the winter, but simply lay two strips of wood ½ in. square about 3 in. apart across the frame-tops, then place on the quilts. This allows a ready passage-way over the combs.

"In 1887, Mr. Parks (of Messrs. Lewis & Co., Watertown, U.S.A.), while on a visit to England, offered me the management of Messrs. Lewis's extensive appliance factory at Wisconsin, but, being well satisfied as I was, I did not care to leave Mr. Blow. In 1891, however, a serious illness compelled me to give up my appointment with Mr. Blow, and I was incapacitated for three years. On regaining my health I started business for myself at Hitchin as an appliance maker, and was also engaged as lecturer by the Technical Instruction Committee of the Herts County Council. Soon after starting I was also offered an appointment as manager of the bee-farm at Tunis, which I declined, not caring to give up my business, which by this time had developed into a fair means of obtaining a living. I have three apiaries, the photo showing part of the largest, and here I usually keep about forty stocks. The lady on the left is my good wife, who has just brought me a cup of tea; the garden—which covers half an acre of ground—being about a mile from my house.

"Mrs. B. always strains and jars off the honey; she also melts the combs and extracts the wax, and I never hear her make any complaint of the 'mess' caused by wax extracting we hear so much about in your pages. I must, however, add a word to say the wax is her own special 'perquisite.'

"But on wax-melting days, like 'washing days,' I always like to be called from home to look over some one's bees."

We may also add a line to Mr. Buller's interesting account of his long and varied experience, to say that he is a poultry-farmer on a pretty large scale, and finds that on the whole bees pay better than poultry.

CORRESPONDENCE.

(*Continued from page* 114.)

WAX MOTH IN COMBS.

[3929.] Acting on the suggestion of one of your correspondents last week, I have just been overhauling my combs laid by for the winter. I find wax moth webs in several; grubs, mostly dead, in some. Those which I had laid by in a box fared worse than those in open racks; but the most curious thing was that on opening the box (about 3 ft. long), I found attached to the lid, about the centre, a mass of pupæ in a huge cocoon, which I had some difficulty in detaching without breaking. I send it to you as a curiosity, but do not want it back again. I had to destroy about one-fifth of my combs, and this though I had carefully inspected each before I had put it away for the winter.—C. C. James, *Diss, March* 19.

[What is described by our reverend correspondent as a "huge cocoon" is in reality a mass of cocoons, in which we found over a dozen larvæ from half-an-inch to an inch long. The combs in question are infested with the genuine wax moth, *Galleria cereana*.—Eds.]

DEATH OF A BEE-KEEPER IN S. AFRICA.

[3930.] A few years ago you gave what you called "a hearty send-off" to Mr. Wm. Stokes, Balnastraid Bee Farm, Inverness-shire, a prominent Northern bee-keeper; and he then expressed his intention, after making a "modest pile," of returning home and renewing his bee-keeping on an extensive scale. Alas! it was not to be; and another of "Nature's gentlemen," as I have heard him described aptly and well, has gone over to the great majority, as will be seen from enclosed cutting from a local paper. Mr. Stokes has four sons in South Africa, all at present "soldiers of the Queen." An old soldier himself (he was a Royal Engineer), had he lived he would have done excellent service wherever he had been called on, for he was thorough in everything. Now in that far-away land—with so many other brave men—"he rests in peace." In my novitiate days I drew largely on Mr. Stokes' extensive experience and intimate knowledge of everything connected with bees, and his energy and enthusiasm first made me a bee-keeper, imbuing me with a love for the hobby, without which no one can make it a success. He on his part owed his first initial start to the late Wm. Raitt, of Blairgowrie.—D. M. M., *Banffshire, N.B., March* 19.

The press cutting mentioned above reads as follows:—

Death of Wm. Stokes, Sen., late of Balnastraid.—The report of Mr. Stokes' death appeared in the public Press some time ago as having taken place at Capetown, but, as there was a little uncertainty as to the particular name in the list, it was hoped the report had reference to some other party. Unfortunately, this has not turned out correct, as information from the commanding officer has now come to hand which sets all doubts at rest. The following letter has been received by Mrs. Stokes:—

"From Officer Commanding Railway Pioneer Regiment.

"Atkinson's Buildings,
Capetown, February 19, 1900.

"Madam,—I very much regret to have to inform you of the death of your husband, Wm. Stokes, late sampler on the New Primrose Gold Mines, Johannesburg.

"He enlisted in this corps with a view of serving her Majesty and his country, and

contracted dysentery whilst out in camp, and was sent to the hospital in Capetown. I have received information that he succumbed there on Saturday last, 17th inst.

"You have the great consolation of knowing that, though not killed in action, he has died for his country as truly and as nobly as any soldier who is actually killed at the front.—I am, madam, your obedient servant, P. CAPPER, Major R.E., O.C.R.P.R."

[We are quite sure that all who read the above will share in our own sincere regret at the sad news conveyed therein, and in sympathising with Mrs. Stokes and the family of our late friend.

Referring to the "hearty send-off" mentioned by our correspondent, it will possess special interest at the present juncture, when all thoughts are turned towards South Africa, to reprint a portion of the particulars there given regarding Mr. Stokes, from our monthly, the *Record*, as follows :—

On learning of Mr. Stokes' intention of settling for a few years in the Transvaal, we wrote offering to give him the names of a few bee-keepers in the colony who are readers of our journals ; naturally supposing that so ardent a bee-man, as we knew our friend to be, would enjoy a chat on the "hobby" if the opportunity occurred in his new sphere. We also requested a few particulars for publication as to his prospects and plans for the future, which were as readily given as asked for.

Mr. Stokes, then, we may say, was formerly employed in the Ordnance Survey of this kingdom, acting for nine years as Field Superintendent in conducting the survey of the Northern Isles of Shetland. He then retired and engaged in farming on his present holding at Carr Bridge, Inverness-shire. In 1884 he added bees to the farming stock, taking his first lessons in the craft from our friend and then co-Editor of the *Record*, the late William Raitt, of Blairgowrie. Ever since that time Mr. Stokes has been a successful bee-keeper and honey-producer. For several years past he has sent all his heather honey in sections to Johannesburg, South Africa, where it has met with a ready sale at good prices. A severe attack of influenza some time ago, however, left behind it a periodical nervous complaint, which—added to by the late depression in agriculture—made a complete change of scene and occupation not only desirable but necessary. Mr. Stokes—who had two sons already living in South Africa—has, therefore, been tempted to try the change advised for a few years, being encouraged by what he terms the "rosy prospect" of very remunerative employment for his talents as a land surveyor, along with the other advantages named. He writes :—

"Should I be blessed with better health, and spared to make a very modest 'pile,' I hope to return home and go in more largely for bee-keeping than ever ; feeling convinced as I do that bee-keeping will *pay*. My farm will be kept on by my family, and the bees (seventy stocks) I shall leave in charge of my two other boys to make the best of them. The *Record* will be sent after me. We have now been 'chums' for so many years that I should miss it very much. I shall hope to send you a few notes of my impressions of bee-keeping in the land of 'gold,' if I am fortunate enough to see the apiaries of any of your readers in South Africa."

The hopes expressed by our friend of renewing his acquaintance with the bees were not destined to be fulfilled, but we trust that his four sons may be spared and return to Scotland safe and sound after serving their Queen and country as their father had done.—EDS.]

Queries and Replies.

[2357.] *Condensed Moisture Inside Hive-Roofs.*—Could you tell me through our invaluable B.B.J. how I can prevent the condensation that takes place under the hive-roofs and runs along *underneath*, and then down the back inside, and so on to the floor-board ? The top, I may say, is zinc, and my hives are double cased. Would covering the metal with *felt or carpet* glued on inside prevent it ? Ventilation does not seem to do much towards preventing the terrible nuisance. The zinc is a splendid covering for keeping the rain out, and all my hives are covered with it. Could a small trough be constructed from the inside, and by suitable arrangement conduct the water outside ? Many of my stocks have been much weakened by the damp thus caused. In fact, it seems to me that this condensation is really a very serious matter. Thanks for the many useful hints in your excellent paper.—X. Y. Z., *Bungay, March* 15.

REPLY.—Are we to understand that the hive-roofs are made entirely of zinc ? or are they made in the usual way of wood, and covered with very thin sheet zinc to render them watertight ? If the latter, we cannot understand condensation of moisture taking place to the extent stated. Hives with loose outer-cases, in which a free current of air is allowed between the hive and outer-case, never give us trouble of the kind indicated, and we cannot understand its happening in the above case. With regard to a remedy, however, any improvised outlet in rear of hive to carry off the moisture and prevent its flowing on to the floorboard will be advantageous. We cannot quite bring our mind to believe that a free current of air all round between hive and outer case will not do away with the mischief.

[2358.] *A Beginner's Queries.*—I purchased a stock of bees last May near here and had them fixed by the vendor in our garden. I was told they would swarm, and also put honey in a bell-glass which the vendor fixed over the straw skep in which the bees came. Being quite a novice I believed all this, but the bees neither swarmed nor put honey in the glass. I have recently been studying a book

and reading your BEE JOURNAL, and am induced to ask: 1. Had I better now transfer the bees to a frame-hive? They look healthy and are beginning to come out and fly round. I may have been supplied with a weak swarm instead of a stock. I am intensely interested in bees, and will go to any trouble I can for them. 2. Kindly give me the address of the Bee-keepers' Association, if there is one I can join in Sussex, and if there is an apiary near here where I could purchase more bees? I did not try to feed the bees, not having taken any honey from the hive. Would it be better to divide them and put some at swarming time (say May) in a bar-frame hive, or may I transfer the whole lot now at once?—R. GREY-WATSEN, *Crowborough Cross, March* 13.

REPLY.—1. We must reply to this question by asking (1) if our correspondent is sufficiently expert in bee-work to perform the operation of transferring bees and combs from a skep to frame-hive? And (2) if the combs are worth transferring at all by reason of them being, perhaps, old and misshapen? If we are informed on these points, we will be better prepared to advise as to the best course to pursue. 2. Mr. H. W. Brice, 100, Brigstock-road, Thornton Heath, is Hon. Sec. of the Kent and Sussex B.K.A., and will no doubt give the information desired. 3. The study of a good work on bee-keeping is absolutely indispensable before our correspondent can successfully undertake operations requiring practical knowledge of bee-work. Dividing stocks, as proposed, and transferring bees in March, are beyond the powers of any but an experienced bee-keeper.

[2359.] *Dealing with Brace Combs.*—I have a hive in which the bees have joined two combs together in two places, when should I cut them apart and pare down to the proper thickness?—CHAS. A. DICKINSON, *East Grinstead, March* 14.

REPLY.—Take the first chance a fine day offers. The sooner it is done the better.

[2360.] *Mis-spaced Frames.*—The frames about which I wrote you (2333, page 69) are broad-shouldered frames. I send herewith the exact width of shoulders, which is 1⅜. 1. Would the bees work as well and contentedly in hives filled with frames this breadth, or should I use only frames 1½ in. from centre to centre. 2. I noticed yesterday the bees carrying in pollen. There are very few flowers in bloom in the district. Shall I be doing right by giving to each colony a pound or so of soft candy and pea flour mixed?—J. A., K. R., *Perthshire, March* 14.

REPLY. — 1. Rather than use broad-shouldered frames mis-spaced to 1⅜ inches in hives, we should break them up for firewood and procure correctly made ones. It would lead to all sorts of complications to have frames so spaced along with those that are accurate. 2. If natural pollen is scarce, it will be advantageous to give flour candy, as proposed.

MAKING NUCLEI, NATURAL AND ARTIFICIAL INCREASE, &c.

Two postal cards lie before me, covered with questions put on as thick as possible; and in reading them I imagine that the questioners are right here in my office and that we are talking face to face. Here is the conversation we are having about making nuclei, natural and artificial increase, using foundation, and clipping the wings of the queens:

"I see by *Gleanings* that you are in the habit of talking with beginners who call on you, telling them about how you would work with bees to secure the best results. I am thinking of dividing my bees the coming summer, and want to prepare for this during the early spring months. When dividing bees, is it best to rear queens for them or let the queenless part of the division rear a queen for themselves?"

"I consider any plan of division which compels the queenless part to rear their own queen, as faulty."

"Why so?"

"Because, in the first place, *good* queens are reared only in a colony very populous in bees, *of all ages*, with honey and pollen coming in from the fields, enough to supply their wants. Of course, this honey and pollen part can be supplied by the apiarist, if deficient in nature; but the *populous* in bees part cannot possibly obtain with a divided colony."

"Is that all the fault there would be?"

"No. Where the queenless part of a division is obliged to rear its own queen, such queen will not usually emerge from her cell before the twelfth day. If she emerges earlier she will be likely to be of even more inferior quality than she would be otherwise. Then it will naturally be ten days before she will commence to lay. Now add to this twenty-one days, as the time before any of her eggs will produce bees, and we have a period of forty-three days without any addition of bees to that divided part, except what came from the eggs of the mother queen before the division. By this time the colony becomes very weak in bees, from the constant loss which is occurring, so that such a division is not likely to do more than become ready for winter, if it does even that much."

"What would be the gain by the other plan?"

"If a young laying queen were given at the time of the division, as always should be done, there need be no more than from one to three days' break in the eggs, in this part of the division, which break would be insufficient to cause any serious loss in bees. And if a ripe queen-cell is given, a gain is made of eleven to twelve days, which would often be equivalent to some surplus honey, and always insure the colony being in much better shape for winter."

"How would you make the nuclei for raising the surplus queens you wish?"

"After trying everything proposed in the way of making nuclei, I know of nothing better than the following for the apiarist who wishes only queens for use in his apiary. It is seldom that any bee-keeper does not have a few weak colonies in the apiary in the spring. Allow these weak colonies to build up only as fast as they naturally will, instead of giving them brood from stronger colonies, as most do, to the great detriment of the stronger and of little advantage to the weaker. Then, about fifteen or twenty days before it is expected to want queens for the division, go to these weaker colonies, remove the frame of brood (bees and all), having the queen on it, setting the same into an empty hive where you wish a nucleus to stand. Now take all of the other frames, not having brood in them, from the same hive, and place them, with all of the adhering bees, in the same hive, having the frame of bees, brood, and queen. In this way enough bees stay with their queen to hold the frame of brood in good shape, and if you have one nucleus ready to take a queen from in a few days, should you wish one before you have young laying queens. Two days later, take an empty hive and go to the one having the remnant of the brood from which the queen was taken, setting this hive of brood enough to one side so that the new hive can partly occupy the old stand. Now take half of the brood and bees and place in the new hive, giving each a frame of honey if necessary, when you have two more nuclei ready for ripe queen-cells, these latter having been looked after long enough before so they will be ready for use at this time. By thus placing the hives, the returning bees will divide between the two so that each will be about equal. If one should draw more than the other in bees, move it a little further off from the old stand till you have them about equal. In this way three *good* nuclei are made, with very little trouble, from each weak colony in the spring."

"That seems plain. Now tell us how to make artificial increase so we can secure good strong colonies and a good yield of surplus honey."

"As you put the question, a very moderate increase will be what you wish; and this is the plan I have used under such circumstances for the past twenty-five years. About eight to ten days before your expected honey-flow, go to a populous colony, which for convenience we will call No. 1, and shake all of the bees and queen from their combs into a hive filled with empty comb or frames filled with foundation, placed where the old one stood, placing the surplus arrangement from the old hive on the colony thus made. In this way you have a strong colony containing all the bees and queen from one of your very strongest colonies, a hive full of comb or foundation, and the partly filled sections from No. 1, all being in readiness to take advantage of the harvest as soon as it comes. Now take the combs of brood taken from No. 1 to No. 2, and set them on No. 2's stand, having previously moved No. 2 to a new stand a rod or two away. Just before setting the combs on the stand of No. 2, go to one of your nuclei and get the comb the queen is on and take it, bees and all; and as soon as the combs are on the stand of No. 2, shake the bees and queen from it in front of the hive on No. 2 stand, and let them run in with the bees from No. 2 now hovering about trying to find their old home. Put sections on this hive, and the work is done. Thus you have a colony composed of a full hive of combs and brood, a good young queen, and workers to protect her, and all the field or working force from No. 2, which make a big strong colony ready for business as soon as the honey-harvest arrives. No. 2 has a hive of combs and brood, their old queen and sections partly filled, but they have lost their working force. In from eight to ten days they are quite well stocked with workers again, when they are also in fine shape for the harvest which is now on. I have told you this plan at length as you wished it made plain, and because I consider it the best plan of artificial increase in existence. If you wish a greater increase, go through the same operation again just after the harvest, less the sections, and see that No. 1 is fed in some way, or supplied with combs of honey."

"Which is better for a beginner—this or natural swarming?"

"The beginner might try each, the artificial on a small scale till he becomes accustomed to it. Natural swarming has a fascination about it that no mode of artificial increase can possibly have. If one can be about home, natural swarming is a good way of increase where persons desire to double their colonies, and have the ability to prevent all after-swarms."

"In natural swarming would you clip the queens' wings?"

"Yes, by all means, as this not only prevents swarms from absconding to the woods, but makes you master of the situation where two or more come out or cluster together, and saves all climbing of trees, cutting off limbs, &c., they hiving themselves by returning, you having taken away the old colony while the swarm is out, substituting a new hive in the place of the old one."

"How about losing these clipped queens in the grass?"

"In all well-regulated apiaries the grass is kept cut short during swarming time, if not at all times; and if each stand has an alighting-board running from the entrance of the hive to the ground, as always should be the case, very few queens will fail to go back to the hive when the swarm returns, if the apiarist is not present when the swarm issues. If any should happen not to return, a few bees will always cluster about them, so the queen can be found by this cluster of bees by glancing

over the ground in the apiary, on the apiarist's return."

"Which is more profitable when using natural swarming—having the frames and sections filled with foundation, or just starters?"

"As to the sections, I now say fill them *always*. More saleable section honey results therefrom. As to the frames, consult your time and your pocketbook. If time is precious, so you cannot look after the combs when being built from starters, and your pocketbook can afford the foundation, then buy it. If the contrary, then you can well make it pay to have the bees build their combs in the brood-frames as long as they will build worker comb. When they take to building mostly drone comb, a few frames filled with foundation, to use at such a time, will well pay, even if you have to pay $1 a pound for the same."

"One more question, a little off the order of the rest, and we'll be going. How can you tell when a colony is about to supersede its queen?"

"This is generally told by a decrease of brood in the hive, or the brood being scattered about in different parts of several combs, instead of being compact together; and, together with these conditions, the starting of queen-cells while the old queen is present in the hive. If in the swarming season, the scattered and scanty brood is what we go by. If out of the swarming season, then the starting of queen-cells, the same having eggs, larvæ, or pupæ in them, tells us on first sight that the old queen is about to be replaced with a young one. But it is often the case that, after all of these things looking towards the supersedure of a queen, the bees will change their minds (?) and destroy all the cells started. If they do this they will often go to feeding the queen in an extra manner, when she will put in a lot of brood as compact as, and nearly to the amount of, that done by a young queen. And I have known such about-to-be-superseded queens taken away after the young queen was hatched, and roaming over the combs with their mother, to keep up a good rousing colony for two years, when introduced to the same, this showing that the bees themselves do not always know just what is best."—G. M. DOOLITTLE, in *Gleanings (American)*.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

"BEECHLEAVES" (Reading).—*Bee Associations and Selling Honey.*—We are obliged to our correspondent for his second communication on the above subject, but it seems hardly worth while to occupy space in re-traversing the same ground as before after the reply to his first letter (3916, page 86), which appeared in our issue of the 8th inst. We therefore hope that our friend "Beechleaves"—instead of making suggestions which those who are actively engaged in Association work know perfectly well it is impossible to carry out—will allow *us* to suggest that he will attach himself to the body of earnest workers who are now giving up their time and money to improve the bee industry at large. By doing so he will be able to render the practical assistance which is so helpful, instead of putting difficulties in the way of others, and we are sure his co-operation would be welcomed.

J. ENGLISH (co. Durham).—*Suspected Foul Brood.*—Judging by the sample of comb sent, there is no foul brood in the hive, therefore the death of bees must be attributable to some other cause than the one suspected.

W. L. SMITH (Chatham).—*Bee Nomenclature.*—The bees sent are the common variety, except for a slight tinge of the Ligurian element, probably three or four generations back.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

GENTLEMAN wants to LEARN ENGLISH BEE-KEEPING. Has had one and a half years' experience in Canada. No premium. Gentleman's family in Scotland or South of England. Referenees given. W. 5, Mount Sion, Tunbridge Wells, Kent.

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FOR SALE, three strong STOCKS of BEES in frame hives, with extra sections, crates, extractor, and every requisite. G. B., East Hill, Brackley, Northants. 785

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ON SALE, two MEADOWS GUINEA HIVES in excellent condition. Also a Section Extractor, Uncapping Knife, Spur Embedder, Feeder, Veil, &c. All comparatively new; 30s. the lot. E. LUCAS, Stoneclough, near Manchester. 782

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

ANNUAL MEETING.

The annual general meeting of members was held on Thursday, the 22nd inst., in the Board-room of the Royal Society for the Prevention of Cruelty to Animals, 105, Jermyn-street, S.W., under the presidency of Mr. E. D. Till. There were also present Miss Gayton, Rev. W. E. Burkitt, Major Fair, Messrs. R. T. Andrews, R. C. Blundell, G. J. Buller, W. Broughton Carr, R. H. Hamlyn-Harris, W. H. Harris, W. Herrod, J. M. Hooker, J. H. New, A. G. Pugh, W. F. Reid, W. J. Sheppard, G. W. Smyth, E. H. Taylor, H. Tolson, F. B. White, J. Willard, and the Secretary.

Letters were received from the Hon. and Rev. Henry Bligh, Mr. P. Scattergood, Mr. E. Walker, Mr. T. I. Weston, Mr. C. N. White, and others, apologising for enforced absence.

The minutes of the previous meeting were read and adopted.

The Chairman, in moving that the report and balance-sheet issued for the year 1899 be received and adopted, stated that the work of the Association had been mainly upon the lines so successfully carried out during recent years. It was satisfactory to note the improvement which had taken place in the Honey Department of the Grocers' Exhibition, and he understood that the management had determined to do all in their power to render this section of the show still more attractive and useful. He considered that in time this effort would be of great assistance in bringing English honey prominently before a body of traders specially interested in such products. The position of the Society was, he thought, fairly satisfactory, and the report one which would commend itself to the members generally.

Mr. Buller seconded the motion.

Mr. Tolson (hon. sec. Devon B.K.A.) moved the rejection of the report, on the ground that it contained no mention of any effort on the part of the Council to assist bee-keepers in the disposal of bee-produce. Proceeding, he gave a résumé of the work of the Devon B.K.A. during the past two years, in which time he said they had done all that was possible, and that it was no use attempting to further promulgate bee-keeping unless some steps were taken by the B.B.K.A. to improve the honey market. Much might be done by fixing a "standard" for honey of first quality and for lower grades, giving definite instructions in the "get up" of sections, and the provision of bottles to hold a given weight of honey. He also considered that the central body should establish a depot in the Metropolis where honey belonging to the members of its affiliated association could be sent and a market found for it. He begged, for the reasons stated, to move that the report be not accepted.

The amendment found no seconder.

The Chairman, after thanking Mr. Tolson for coming up from Devonshire in order to place the views of the Devon B.K.A. before them, drew attention to the fact that the British Bee-keepers' Association was not—and he hoped never would be—a trading body. It was an organisation similar in its aims and objects to many others in the metropolis, established for purely philanthropic purposes, and consisting of members who had no personal interests of their own to serve. This being so, he ventured to say that directly they became traders, as proposed by Mr. Tolson, the original purpose of their existence, and the disinterested motives claimed for their efforts, must, of course, cease. He, the Chairman, also thought the past record of good work done by the Association in promoting the best aims of the bee-industry was a completely satisfactory reply to the somewhat disparaging remarks of Mr. Tolson, who would, he believed, have only needed a little practical experience of the work of the Council in order to effect a considerable change in his opinion regarding the value of its labours.

Mr. W. H. Harris also referred to the educational work of the B.B.K.A. in the past, their efforts in generally spreading a knowledge of bee-keeping throughout the country, their exertions in grappling with "foul brood" and other diseases, upon either of which grounds he considered the Association well deserved the lasting gratitude of bee-keepers. As Chairman of the Education Committee he had special opportunities of forming an opinion, and ventured to assert that the placing of competent experts in various districts, as little centres of information, had been of great practical usefulness, and was a distinct feature of the Society's work. Mr. Tolson, apparently, was not aware that some years ago a company was formed (largely supported by the then members of the B.B.K.A Council) for the express purpose of improving the honey market. This company had a capital of £20,000, a depôt in London, several travellers constantly employed, and yet so great were the difficulties in getting a constant supply of produce that after two or three years the project had to be abandoned.

Mr. Pugh thought the price of 4½d. quoted by Mr. Tolson was very low for section-honey of good quality. As late honorary secretary of a county association, he had found the adoption of a county honey-label of great service in promoting sales locally. In his opinion the question of the disposal of surplus was one to be dealt with by county associations rather than by the central body.

Mr. Carr said the most important of the problems put forward by Mr. Tolson were

impossible of solution. Take, for instance, establishing a fixed "standard" for first quality honey and for other and lower grades. How, he asked, was it possible to "fix" the quality of any sample of honey without first tasting it? And is it possible or practicable to do that? Again, how could a "standard" jar be made to hold an exactly given weight of honey when honey varied so much in density or weight? These problems had been thought out years ago, and given up because no practical solution could be arrived at. The same might be said of finding a market for the honey of all bee-keepers who failed to do this for themselves.

Mr. Tolson having retired, the resolution was then unanimously carried.

On the motion of Mr. Reid, seconded by Mr. Buller, the retiring Council and officers were thanked for their services.

A vote of thanks to the Council of the Royal Society for the Prevention of Cruelty to Animals, for the gratuitous use of their Board-room for Committee and other meetings, was moved by Mr. W. H. Harris, seconded by Mr. Hooker, and carried.

The President, vice-presidents, hon. members, corresponding members, treasurer, auditor, and analyst were unanimously re-elected for the year 1900 on the motion of Mr. Carr, seconded by Mr. Hooker.

The following members of Council for the ensuing year were then formally elected, viz.:—Miss M. L. Gayton, Hon. and Rev. Henry Bligh, Rev. G. W. Bancks, Major Fair, Messrs. T. W. Cowan, R. T. Andrews, R. C. Blundell, H. W. Brice, W. B. Carr, W. H. Harris, J. M. Hooker, H. Jonas, J. H. New, W. F. Reid, P. Scattergood, W. J. Sheppard, E. D. Till, E. Walker, T. I. Weston, C. N. White, and F. B. White.

The general meeting having concluded, a meeting of the Council was held for the drafting of the prize schedule for the Dairy Show of 1900, and other business.

It was also resolved to hold the meetings of the Council during the coming year at 2.30 p.m. on the third Thursday in the month, provided the Board-room at 105, Jermyn-street, can be obtained for such purpose.

CONVERSAZIONE.

At six o'clock refreshments were served, and after a short interval Mr. Till resumed his position in the chair and opened the proceedings of the conversazione. There were, he said, comparatively few set subjects for discussion that evening. He read letters from Mr. Lee relative to an observatory hive (afterwards shown); from Mr. Berry, of Llanrwst, asking that separate classes should be made at shows for sainfoin and clover honey in sections; and from Mr. Spencer, of Atworth, Melksham, urging the desirability of the publication for broadcast distribution of cheap leaflets on honey as food. In addition, there was an interesting exhibit which had been sent to the BEE JOURNAL office by Mr. Dervishian, of Cyprus, consisting of a section of the front part of a hive used only in summer for queen-rearing, showing entrance and flight-board. It appeared that the bees had built a wall of paint and propolis across the aperture cut in the hive front as an entrance, while in that wall there were six circular holes, each just large enough for a bee to pass through. The bees evidently had three different objects in building this addition. Firstly, to prevent rain-water running in; secondly, as a defence against enemies (hornets abounding in the country); and thirdly, to protect themselves against the anticipated cold air of winter. The holes were about $\frac{1}{2}$ in. apart, and their top edges were close to the roof of the entrance, while the lower edges were a $\frac{1}{4}$ in. high above the surface of the floor-board, and sloped outwards towards it. The bees collected the paint used in their structure from the outside of the hive when the latter had been newly painted, manipulating it along with propolis, in the construction of the wall. The apertures, while just large enough for a bee to pass through, excluded hornets. Taking a hint from the bees, Mr. Dervishian had constructed a wooden entrance-protector as an exact imitation of this wall of paint and propolis, and had adopted them for all his hives during August and September. Mr. Dervishian's exhibit was passed round for inspection, and aroused considerable interest among those present. With regard to Mr. Spencer's suggestion, the Chairman said it had been discussed before, but no action taken. The idea was a good one, and would very likely help to create a demand for honey; but the difficulty was to obtain a suitable leaflet that could be issued at a very cheap rate. Mr. Bancks had published one, entitled "Honey and its Uses," which might be very advantageously distributed at shows.

Mr. Carr thought that no pamphlet would be of real use, except one that could be sold at about the same price as that of the A.I. Root Co., of America, while it was always a risky matter to make no charge at all for such pamphlets, because, unless kept continually advertised, they were apt to be lost sight of. Mr. Bancks's production, which sold at 3s. 6d. per 100, was not cheap enough for the desired purpose. If the B.B.K.A., with the help of the county associations, could see its way to publish a leaflet, well and good; but, if not, the BEE JOURNAL might consider the matter, as the JOURNAL could certainly do it better than any one else because the advertising was in its own hands.

The Chairman said that a large amount of honey could be consumed in making honey-vinegar, the recipe for which was very short and simple, and should be made generally

known. In France, he believed, a large quantity of honey was used in the manufacture of gingerbread and various cakes. Cheap honey, not good enough for table use, might very well enter into the composition of such edibles as gingerbread, as it is only a little more expensive than sugar.

In reference to a remark made by Mr. Carr regarding the extensive use of heather honey in Germany for making gingerbread cakes, Mr. Hamlyn-Harris—who spends a good portion of his time in Germany—explained that just before Christmas-time in Germany and throughout the Continent a large quantity of honey of a certain kind was sent into the towns to be used in confectionery. The best honey, however, in Germany sold at 1s. per lb., but that used for cooking purposes cost about 7d. per lb., and was certainly not pure. There was generally a good proportion of heather honey, because heather was distributed all over Germany, and it was very difficult to procure honey gathered late in the year that did not contain it. Everything in the way of cakes and sweets in Germany, especially at Yuletide, had honey as an ingredient; but sugar was dear there, costing about 3½d. or 4d. per lb., and then not cane sugar.

Mr. Carr said that honey gathered from heather imparted a very strong honey flavour to gingerbread or other confectionery.

Mr. Walter F. Reid remarked that the soil was very sandy in North Germany, from Hamburg right on almost to St. Petersburg, but there was very little heather elsewhere, except on the tops of hills and in patches. No doubt a great demand for honey might be developed if the use of it for confectionery purposes could be fostered. As to the proposed leaflet, if it contained anything like the large number of recipes that already existed for using honey in cooking, and it could be circulated in classes for technical instruction, as well as at shows, it would be a movement in the right direction.

Mr. Hamlyn-Harris said that without doubt the honey used for cooking in Germany was not considered good; it was exceedingly dark and unappetising, and appeared to be manufactured for the occasion. The laws in Germany against adulteration were, however, much stronger than in England, but the difference between table honey and that used for cooking seemed to be recognised.

A general conversation ensued on the question of publishing and circulating leaflets as suggested by Mr. Spencer; the Chairman, Mr. Carr, Mr. Pugh, Mr. Brice, Mr. Taylor, and others taking part therein. In the end it was proposed, with apparently general assent, to endeavour to get the county associations to support the effort for issuing at a cheap rate a leaflet for distribution within their areas. An endeavour will therefore probably be made to carry it out in some form or other.

Referring to Mr. John Berry's letter, the Chairman thought it was not practicable to have separate classes at shows for sainfoin and white clover honey respectively in sections.

Messrs. Pugh, Carr, and Hooker continued the discussion, which tended to confirm the Chairman's view.

Mr. Hamlyn-Harris next produced a sample of honey-vinegar from Germany, about three years old. Although it had been in his possession nearly a year, there was absolutely no sediment visible. It was sold in nominal quart bottles at 6d. He could not understand why the percentage of acetic acid was so high in the sample, but he had confidence in the man who made the vinegar as not being likely to know anything about systems of adulteration.

Mr. Reid explained some points in regard to the chemistry of honey; and Mr. Carr and Mr. Jonas extolled the superior merits of English honey-vinegar compared with the German example before them.

Mr. Carr spoke of the peculiarity of the honey gathered last autumn, which, in very many instances, was strongly impregnated with the aroma and flavour characteristic of heather honey, although gathered in districts where this particular product had never before been secured by the bee-keepers located there. A sample of the honey referred to was handed round the room and examined and tasted by many of those present.

Mr. Carr next showed specimens of cocoons of the genuine wax moth (*Galleria cereana*), which was passed round for inspection.

Mr. W. F. Reid said the cocoons shown were very interesting from the point of view of the metamorphosis in connection therewith. The bees could produce wax from pure sugar. Another insect got hold of that wax and evolved from it a substance of an albuminoid character, from which cocoons of great strength and toughness could be spun by the larva of the moth, as seen in those before them.

(Conclusion of report next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

EQUALISING STOCKS,

BY EXCHANGING FRAMES OF BROOD.

[3931.] Mr. Doolittle's article on "Making Nuclei" in your issue for last week (page 118) has reminded me of a subject in connection with the working of stocks for honey production that very seldom comes under discussion by bee-keepers, and to my thinking it is an important one. I refer to the equalising of stocks at certain seasons.

We all know how absolutely essential it is to the bee-keeper, whose aim is to obtain the greatest amount of honey from his bees, to have his stocks as strong as possible when the honey-flow commences, and during the continuance of it. It is, however, perfectly clear that we cannot have all stocks—be they numerous or few—in this desirable condition, because experience shows how much colonies of bees are apt to vary in strength and general prosperity, although treated exactly alike. There is in every apiary a percentage of stocks which will take the lead in spring, continue ahead during the summer and throughout the honey-flow, and wind up by gladdening the heart of their master with an abundant harvest, whilst others have barely boarded themselves. Here then we are confronted with a problem. It is only proving the law of the "survival of the fittest," which is a matter of daily occurrence around us in the human family. Young and prolific queens at their head, or bees which possess the most desirable qualities, will more or less account for the marked prosperity of individual colonies. But by keeping young and prolific queens from the best strains only, can we not hope by careful management to have *all* our stocks strong? We may answer yes; but we should still have an inequality between them as regards strength, and hence arises the question, "Should we obtain the largest harvest (1) by equalising our stocks at a certain period in spring—based upon a knowledge of the expected honey-flow; or (2), by permitting the strongest to increase according to their abilities and produce 'record takes' to add to the average of the minor ones?"

Take, for instance, an apiary of twelve stocks, which we will assume have passed through an ordinary winter; we generally find in the number a great disparity as regards their condition when we overhaul them in March. The bees in one hive may be crowded on eight frames; in four of them they will cover seven frames; in two, five frames; in three, four frames; and the remaining two, through some cause or another, are very weak, the bees of which barely cover three frames each.

Now, if our object was the production of honey, and not of increase, and a honey-flow of six weeks' duration commenced first week in June, what would be the most advantageous plan to adopt to meet the end in view? The vast majority of bee-keepers will probably say: "Unite all the weaker ones, not even excluding those of four frames; you have just sufficient material in hand to form nine stocks, which, under favourable conditions, should produce very good results." A few would, no doubt, advise working the stocks independently, and let all take their chance.

Against this plan of uniting, it may be argued, we could produce a greater amount of honey, and still retain our twelve stocks intact, by judiciously equalising, in view of the fact that a period of practically three months intervenes before the date of supering. This system of equalising appears much like a case of "robbing Peter to pay Paul." It would seem as if the weaker—particularly the very weak—gained but a doubtful advantage, to the certain detriment of the strong and flourishing; but the deprivation of brood, say in April and May, of the strongest, if carried out judiciously, would be the means of raising a weak stock to a position of surplus storing by the time the honey-flow arrived, whilst the strong might not be very materially weakened; besides, the removal of frames of brood in April and May, when no real honey-flow is on, will reduce the tendency to swarm in those extra strong colonies, which in itself is surely a gain.

It must be admitted that the above-mentioned plan is opposed to the principle laid down of keeping stocks strong rather than numerous; but under certain conditions, and with careful management, it may be carried out to advantage. Of course, it could hardly be advisable to risk the chances of weakening a flourishing stock to raise a very weak one that possibly could not be in a position to store to any extent on the arrival of the honey harvest. And the matter of extra disturbance to the brood-nests, which is so much decried, must be taken into consideration.

I will give an instance of my personal experience in equalising. In a good season some years ago I worked a number of stocks independently; my best produced 106 lb. surplus, almost exclusively marketable sections; I had also another alongside it which gave only nine, and two others nil; whilst the average amounted to forty-two for all.

(*Continued on p.* 126.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Rowell, whose apiary appears on next page, adds one more to the list of artisan bee-keepers whose experiences are of so much value to the craft, and as he sends a full and interesting account of his success, we need add nothing to it. He says:—

"In response to your request, I hardly know what to say about myself as a bee-keeper, except forwarding a few notes to go with the picture of my apiary and leave you to deal with them as may be deemed best. I am what you might call a working-man bee-keeper. I work for a firm of agricultural engineers as fitter, and having been with the same employers since my fourteenth year I have not had to move my bees much. My daily work keeps me employed till six in the evening, and 1 p.m. on Saturday, and besides my bees at home I have some at two other places four miles away. I also manage a good many hives for other people and render what help I can to many who call in the evenings for

advice about their bees. For some years past I have answered queries on bee-keeping in the *Weekly Times and Echo*, and this brings me correspondence from all parts of England, Ireland, and Scotland, and sometimes abroad. I have also sent hives and sections, &c., to Italy, so you will see that at times I am what you might call a bit busy.

"I have been a bee-keeper now for sixteen years and possess the third-class experts' certificate of the B.B.K.A. My start in the craft arose through seeing a bee demonstration at an agricultural show. My liking for bees dates very early in life, but the thoughts of killing them to get the honey was very distasteful, and when I saw that there was a better way of bee-keeping than the old one, I allowing plenty of ventilation the bees seldom swarm, and give a good surplus of fine honey. The plan of placing a few stocks out in the country in this way should, I think, be carried out much more frequently than it is by bee-keepers generally.

"I do not get such large returns from single hives as are sometimes reported in your pages, but I have in one season taken 111 sections from one hive. My average, taking one year with another, is about 45 lb. per hive. Regarding the quality of our Hampshire honey, I consider it second to none. In proof of this, at the last Dairy Show two Hants men were placed first and second, while I myself got fifth for light extracted honey in a class of over sixty entries.

MR H. ROWELL'S APIARY, HOOK, WINCHFIELD, HANTS.

at once began to take in the B.B.J., and I think most of my success in bee-keeping is due to its teachings. I lost no time in becoming the owner of a stock in a skep and two swarms together with a new frame-hive, but since then I have made all my own hives and a good many for sale. Hook is not one of the best bee districts, there being no sainfoin grown, nor is there much white clover, while on one side of my apiary there are thousands of acres of common with heather of a kind that yields no honey to the bees.

"I find that the bees in my out-apiaries do better than those at home, the former being located in the midst of sainfoin. I visit them about once a fortnight during spring and summer, and by keeping young queens and

"I keep about forty stocks of bees and work for both sections and extracted honey in equal quantities, having good sale for both.

"In view of the widely different views expressed in your pages on selling honey, a few words on the subject may not be out of place. Let me, therefore, say I sell about 16 cwt. each year and have never yet had to advertise in order to find purchasers. I always keep my produce as clean as possible, taking care to make sections look tasteful by glazing neatly; my jars, too, are of clear glass and neatly labelled with my own printed label. As another means of creating a market, I generally make a display of about 150 lb. of honey where the opportunity occurs at local flower shows, and with a few cards about let

the public know that I have taken many prizes including three medals for honey. This has gained me much regular custom, indeed, I have sold over £4 worth in this way at a single show. When I first began bee-keeping I could get 1s. per lb. for honey but for the last few years the average has been 8d. per lb.

"My wife does most of the section-glazing and bottles the extracted honey, and my daughter—who is seen standing near the observatory hive in the photo—is already a great help to me in the apiary. She can hive swarms, transfer frames of bees, move a stock from one hive to another, and put on supers; but, as she was only twelve years old last birthday, she cannot lift them off when full. At the Basingstoke Horticultural Show, held last August Bank Holiday, she assisted Mr. Bellairs (hon. sec. of the Hants B.K.A.) in the bee-tent, referring to which I enclose cutting from the local paper, which says:—

"'During the afternoon Mr. E. H. Bellairs, County Council lecturer, gave a bee lecture and demonstration, being assisted in the latter by Miss Dolly Rowell (daughter of Mr. H. Rowell, of Hook), a little girl under twelve years of age, who drove a swarm of bees from the skep into the hive. It is the first time in Mr. Bellairs' experience that he has been assisted by one so young.'

"I fear I have sounded my own trumpet too much in these notes, but I thought you would like to know what a working man can do with his bees after working hours. Apart from the bees, I am a 'P.G.' of the local lodge of Oddfellows, have been member of the School Board, and hold a certificate of the St. John's Ambulance Association."

CORRESPONDENCE.

(*Continued from page* 124.)

During the past season of 1899, I gave the greatest attention to the practice of equalising, with the result that my average slightly exceeded fifty-nine, and my best stock gave seventy-seven. This showed a decided gain for the theory. Of course, I am unable to say with any degree of certainty whether last season was the best of the two for honey gathering or not, or whether my longer experience of bee-keeping might not have accounted for the increased harvest. Doubtless, much depends on the extent to which the theory is carried. I should like to hear the views of others on the subject, as I feel sure it is much practised.

I trust my letter is not too long, but I noted your remarks anent slackness on the part of your correspondents.—C. B., *County Louth*, *March* 24.

[We shall welcome discussion on the above subject, though of course it is known that the question of equalising stocks is by no means new, and it is surrounded by risks to which more importance is now attached than formerly.—Eds.]

MALFORMED BEES.

[3932.] Last autumn I observed some bees from one of my hives showing a peculiar malformation of the caput. The vertex was narrowed into an acute angle, while the compound eyes occupied almost all the side of the head and took the place of the ocelli, which, to the naked eye, was not discernible as a distinct entity. The head all over was smaller, narrower, and sharper in outline than that of an ordinary bee. They were seen outside only in bright sunshine. After leaving the flight-board they flew about in an aimless manner, going no distance from the hive, and never again discovering the entrance. In a short time they seemed to have exhausted their powers of flight and paraded the walk, making weak and ineffectual attempts to take wing, till at last they "lay them down to die." They seemed for a short time to be lively enough on the wing, but the sound of their flight was not that of an ordinary worker, being thinner and weaker, and having no true pitch. The antennæ, too, seemed undeveloped. I thought them greater in length, but narrower, both in the thorax and abdomen, than normal bees. Having no microscope I was unable to make any minute examination of the phenomenon, and I now regret that I did not send you some specimens to have them thoroughly examined. I have never met with any similar case in all my experience or reading of bee literature, though perhaps it may be a common one.—D. M. M., *Banffshire*, *N.B.*, *March* 24.

[We share our correspondent's regret that he did not send a specimen of the bees referred to; it is so very difficult to diagnose cases of this kind from description only. If another opportunity occurs we will gladly give our views after microscopic examination.—Eds.]

NOTES FROM WYCHWOOD FOREST.

BEE-KEEPING IN CHINA.

[3933.] The other day, while having tea with a missionary and his wife who have just returned from Central China, some honey in the comb happened to be on the table, and this led to the remark that John Chinaman does not sell his honey in the comb. It was explained that the reason for this is the fact of the wax being too valuable for one thing, and another is that the wooden section is not in evidence in China—at least, so far as my friend's experience went.

I was glad to get a few particulars as to how bees are kept in that strange land; and from what I could gather it appears that when a bee-keeper either builds his house himself or gets it built, provision is made in his house for the bees by providing cavities in the brickwork

forming the sides of the house. These recesses are about 3 ft. from the ground, and of about 2 ft. by 1 ft. internal dimensions, the open front being closed afterwards with a piece of wicker-work plastered over with mud, save a tiny hole left as an entrance for the bees to pass in and out of their strange abode.

By this arrangement John Chinaman is not troubled in getting his hives overturned without his knowledge by some stray cow whilst he is asleep, through the garden gate being left ajar overnight; neither is he troubled with the rain wetting the quilts, &c., through a leaky hive-roof.

I did not acquire any information as to how the bees are got into these queer dwellings, or how the bee-keeper manipulates the hives; but the opinion was very emphatically expressed that the Chinaman knows how to adulterate his honey before he offers it for sale.

The Season.—The month of March is evidently not reformed in its character, for, after an open winter, cold winds and sharp frosts have been troubling us and the bees; added to this, snow has again fallen, though we had hoped to see no more winter till next Christmas. Some of the largest snowflakes ever seen in this district—according to old residents—fell here this morning.

The cold will be bad for the health and well-being of the unfortunate bees that are not warmly covered. I heard this morning of a good stock which somehow got overlooked last autumn, and were left covered with simply a single enamelled quilt over the frames. The result was that Jack Frost destroyed the lot, though they had plenty of stores. Moral: "Never forget to cover up warm and snug for the winter." — JOHN KIBBLE, *Charlbury, March* 19.

MR. G. WELLS'S REPORT FOR 1899.

[3934.] As a reader of the B.B.J. for many years past, I would like to say how helpful it has been in all matters concerning my bee-keeping. Indeed, whenever I have got into difficulties requiring sound advice, it has always been kindly tendered and accepted with advantage to myself, so that in thought, if not in words, I have been thankful for the help thus given me. But what a constant succession of new ideas keep suggesting themselves to one's mind in connection with bees! The little labourers are not only interesting in a high degree, but so useful in various ways, that it seems to me we shall never know or fully appreciate their great value to all mankind.

I have thought it well to say this much in order to show that it is not from failing interest in the pursuit of bee-keeping that the annual report of my bee doings—which you have been good enough to insert for some years past—is delayed beyond the usual time. On the contrary, the bees afford me as much pleasure now as ever they did, and that is saying a good deal; but business has occupied me more fully in 1899, while the help I have had in bee-work has been less than formerly. Consequently, my bee-keeping accounts have not been quite so fully written up as before; but I have sufficient data to make sure that my report will be very little wide of the mark in the weight of surplus honey secured; while the items of expenditure and the amount of beeswax extracted from cappings and old combs are, I know, perfectly correct.

The weight of wax I get from year to year seems to rather puzzle some bee-keepers who read the B.B.J. with regard to the way I manage to secure so much, but I don't quite know how to make things more plain than I have hitherto done, except to say that I have still the wax produced in 1899 and the previous year by me, and both lots can be seen as they are for sale as per advertisement in your columns this week.

The "wax cake" for '98 is all in one piece, being the produce of "cappings" and old combs combined; the wax of last season is, however, in two cakes, that from "cappings" being kept apart from the wax got from old combs. I may add that the wax referred to above has been inspected by a good many B.J. readers, among them our esteemed old friend, John Walton, of Honey Cott, Weston.

Coming then to my report for 1899, let me say I started the spring of that year with six hives, all double-queened—or better known as "Wells" hives. The season in our part of Kent was, I think, rather above the average, my own "take" from the six hives mentioned being 1,040 lb. of extracted and 100 1-lb. sections, together with 56 lb. of beeswax. The honey was sold out rather earlier than usual, the lowest price obtained being £3 per cwt. for extracted honey in bulk, but a good deal was sold at 9d. per lb. Most of the sections realised 11d. each, but a few not well filled ones were sold at a less price.

My bee account for the year 1899 stands thus:—

1,040 lb. extracted honey sold for	£30	6	8
100 1-lb. sections averaged 10d. each	4	3	4
56 lb. beeswax valued at	4	4	0
	£38	14	0
Less expenditure	4	12	6
Balance for labour and profit	£34	1	6

Without saying that the above is correct to a penny, as a few small items were missed in booking, I can vouch for its being practically an accurate account of the year's results, which show an average of 190 lb. of surplus honey and 9 lb. of wax per hive, the cash average thus amounting in value to £5 13s. 7d. per hive.

Probably some will say this is nothing extraordinary for double-queened colonies, compared with what has been obtained by

single-queen stocks in some localities, but my results can only be fairly arrived at by comparing with what has last year been secured in other parts of Kent, similar to, and no better than, my own. If this is done I think my harvest will stand well by comparison, while it is certainly good pay for a "hobby" so full of interest and pleasure as bee-keeping.

The crocus beds in front of my hives are now a mass of bloom, and the bees are revelling in the flowers whenever a favourable day occurs. I have not done any examining of the hives, but the bees appear strong and healthy, and judging by the numbers visiting the water trough they are raising brood fast.—GEORGE WELLS, Eccles, Aylesford, Kent, *March* 23.

SPRING NOTES FROM LANCASHIRE.

[3935] *March* 17.—How great the contrast from this day a week ago! Cold north-east winds and snow. No bees out to day, and the crocuses now in thousands bent and broken. Our hopes of a week ago dimmed for the present. Last night's minimum register of thermometer 21 deg. Fahr. Truly our bee-keeping in this country inculcates at least two of the Graces—Hope and Patience.

March 18.—A week ago warm sun and gentle breezes, bees working hard on the crocuses and laying the foundation of strong colonies—so we hoped.

Last night, 18 deg. Fahr., and more snow. An odd bee or two ventured out in the sunshine, but soon returned unrewarded to their hives. I examined the candy cakes in a few hives, and was astonished at the warmth of the brood-nest, as proved by placing the hand on the quilts. Good sign of strong stocks below. I was beginning to fear that last Sunday's generosity in the shape of pea flour would have been misplaced, and too expanded brood-nests—for this weather—would have been the consequence, with resulting ejections of larvæ from the hive; but I have seen no ill effect so far as can be judged from the outside, and, as I say, the heat arising through the quilts betokens all well and strong below.

March 24.—No further improvement in the weather. Out of eleven hives saw one solitary bee.

March 25.—Sun bright at times, but wind extremely cold. Found candy almost exhausted in one stock, and knowing that it went into winter quarters with short rations I cut a slit in the under quilt and quickly drawing it back slipped over it the feeding stage, then gave a bottle of warm syrup. This is the first syrup given this season.

Tits and Bees.—Last season I ventured to hazard a remark that personally I did not regard "tits" as enemies of bees, for which one of your esteemed correspondents called me to account. Recently the subject has been freely ventilated in your pages, and the concensus of opinion seems to be against my view. Still, this year's observations only serve to further maintain me in the belief that they very rarely take *live* bees. All winter while the bees were close at home, I never saw the hives visited by the tits as stated by some of your correspondents, and the bees brought out by the disturbance caused by the tapping with their beaks on the alighting board. We have three kinds—the oxeye (*Parus major*), the blue-tit (*Parus cæruleus*), and the coal-tit (*Parus britannicus*), but immediately after the first big cleansing flight—and numbers of bees fly out and get chilled never to return indoors, when before each hive may generally be found a score or so of dead bees—then the tits held banquet, and whenever any of the doors of the house near the hives were opened, flights of tits were observed from the ground immediately in front of the hives. I venture to give this for what it is worth, and don't wish to gainsay the observations of others.—WHITE CLOVER, *March* 26.

THE BEE-SEASON IN ESSEX.

MY PLAN OF INCREASING STOCKS.

"When the sloe-bush begins to blow,
Then sow John Barley, sow."

[3936.] So says the adage, but for the past few years farmers have not waited for the sloe-bush, but have sown "John Barley" as early as weather would permit. The year 1900 has brought with it a spring that compels farmer and bee-keeper alike to wait till the weather suits his work. We certainly did have a couple of days (March 10 and 11) when the sun seemed to rouse everything and everybody to new life and activity. The birds were singing, crows rebuilding their little villages in the tree-tops, and the spring seemed once more alive with the hum of thousands of bees on the wing. A glance around my apiary showed that the whole of my forty-three stocks had come through the winter safely, and were looking strong, with a good supply of young bees playing around the entrances, while busy foragers were carrying in pollen. From three of the hives I saw drones take wing; this being earlier than I expected to have drones flying after the backward spring, I had a dread of queenlessness, and took a peep under the quilts to make sure how the respective cases stood. I found all was well, with a good lot of brood in the combs; promising well for the coming season so far as regards strong stocks; and if 1900 is as good a season as last year, I shall be more than satisfied, as my average was over 70 lb. of surplus per colony.

I do not allow my frame-hives to swarm, two swarms in three years being all that have issued. I take care to get the hives full of bees by the time the honey-flow comes on, when I make full use of them. I begin to increase my stocks when the season is nearly over and dark-coloured honey is coming in, by dividing

them in time to allow the bees to well provide themselves with food and young queens. I start by first dividing the stock that has done best on all points during the current season, allow them to form a good quantity of queen-cells, and when these latter are nearly ready to hatch I divide as many others as are needed to make up new colonies, and give to each one of these selected queen-cells. This is done in the still of the evening, and I find the plan to pay better than utilising driven bees to build up new stocks and without the risk of "robbing."

I make all my own hives, and have now got ready for use twelve single hives and one "Wells," all of which I expect to stock during the coming season. My favourite hive is a ten-framed one with double walls all round and a good zinc roof. I have five "Wells" hives which average about the same as two single ones, but I find they need very careful attention, as they become queenless much more often than do single hives. My district promises well this year with plenty of white clover around, but I trust we shall all have a good time among the bees.—ALBERT COE, *Ridgewell, Halstead, March* 26.

ORDERING APPLIANCES.

DEALERS AND THEIR CUSTOMERS.

[3937.] I have received within the last week several orders with cash enclosed, but no name or address. The goods, therefore, cannot be forwarded. This happens frequently in the busy season, and may it not partly account for the "wails" you receive as to bee appliance dealers being so dilatory in filling orders? Every other order to hand is executed but these must wait till I get the "indignant protests" that will enable me to trace who the folks are that seem to so confidently trust to my recognising their handwriting to know the writer.—GEORGE ROSE, Liverpool, *March* 23.

Queries and Replies.

[2361.] *Danger of Dividing Brood Nests.*—I shall be glad if you can give me your advice on the following points:—I have ten stocks of bees located in a rather exposed position, about four miles from Lancaster. One stock, transferred from a straw skep last August with young queen, is rather weak. I have it on three frames, and the bees now fill two seams. To another stock I gave a sheet of foundation in the middle of brood-chamber last September, but the bees never built it out into comb, and, unfortunately, the foundation seems to have split the cluster in two parts, one half of which died about a fortnight or three weeks ago—I judge from cold, as there was food in the next frame to the one they were in. The sheet of foundation, of course, left a gap, but the cluster on one side seem healthy and strong, while those on the other were all dead. The two hives mentioned stand side by side, about 2 ft. apart, and I venture to ask:—1. Would it be advisable to put these together in a "Wells" hive which I have been making? 2. If not, how do you advise me to proceed to stock my "Wells" hive?

Working for Comb-honey.—3. Could you recommend me a book to get which deals with the practical working of hives and bees, with a view to making it a commercial success? 4. I find I can sell honey in the comb very well, and the way I have been doing so far in disposing of shallow-frames of nicely sealed honey is to get light tins made which exactly fit inside the frame. Placing the tin on the table, and laying the frame over it, the tin, with a little assistance, cuts out the block of honey; a little paper round the edges completes it; a lid fitting fairly tightly over the bottom tin keeps all secure. 5. What kind of foundation would you recommend for this purpose, the "thin super" or that used for shallow-frame? The former is rather inclined to stretch, while the latter is too thick to set nicely. 6. Would you consider 40 lb. per hive a fair average yield under the circumstances?—that is, the bees having to draw out all their foundation. We are near the heather; no limes in the district; not many fruit trees. 7. What shrubs would you advise to be grown to shelter the hives a little from storms? My hives all face north, with a thick hedge to the east, open to south and west. I got several "useful hints" from last week's B.B.J., of which I am a constant reader.—W. B. PRESTON, *Lancaster, March* 19.

REPLY.—1. Since you have already provided a "Wells" hive for the purpose of giving the double-queen system a trial, it will be a favourable opportunity for testing its advantages in uniting two weak colonies under one roof for the promotion of brood-raising in both by joining forces for mutual warmth. 2. We should start by placing the "Wells" hive so that the entrance to one compartment stood exactly in the position before occupied by the flight-board of the bees to be transferred to it. Choose a fine day in April for the removal of frames and bees to the new hive, and in lifting out the combs be careful to place them in the same order and position as before. In about a week, if all goes on well, move the "Wells" hive a foot nearer to the hive containing the second lot of bees, at the same time providing a temporary extension outwards of the division board between the two entrances. This will help to prevent the bees of the separate lots from entering the wrong compartment. On a fine day introduce the second lot, as before; then, after the bees have got accustomed to their new abode, remove all surplus combs from one side of each cluster, so as to crowd the bees of both lots into one combined cluster, with only the perforated dummy between. 3. We know of no better book "on the practical working of hives" in the direction named

than Cowan's "Guide Book." 4. We cannot approve of your method of filling tin boxes with comb-honey for sale. It seems to us as if the dripping honey from the severed combs all round the outer edges of the box would make a sticky mess for the bee-keeper who practised it, to say nothing of the difficulty of keeping the running honey from constantly escaping from the box. The section seems a far preferable method of preparing comb honey for market, unless shallow combs were sold in the frames as built therein by the bees. 5. "Thin super." 6. Yes, a very fair average all round. 7. Privet and thorn makes a good hedge for the purpose.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

(Mrs.) E. A. R. (Newport, Isle of Wight).—*Starting Bee-Keeping.*—1. April is a very good month to start if good healthy stocks can be obtained. If you prefer to begin with swarms May or first week of June will be a good time. 2. Mr. E. H. Bellairs, Winkton, R.S.O., Hants, is Hon. Sec. of the Hants and Isle of Wight B.K.A.

A. A. H. (The Rectory, Alresford).—The Hon. Sec. of the Wilts B.K.A. is the Rev. W. E. Burkitt, Buttermere Rectory, Hungerford.

H. C. S. (Wragby).—*Soft Candy.*—The sample of candy sent has not been sufficiently boiled. When properly cooked, and kept stirred while the cooling process goes on, the candy should be smooth in grain, not granular as in sample.

F. W. (Wisbech).—*Transferring Bees from Skeps to Frame Hive.*—The information sought appears on page 47 of our issue for February 1 last.

L. F. LINOTTE (Birmingham).—*German and French Bee Journals.*—The office address for the *Bienenwirtschaftliches Centralblatt* is Editor Lehzen, Hanover, Germany. The French paper referred to is *L'Apiculteur*, 28, Rue Serpente, Paris.

ENQUIRER (York).—*Albino Bees.*—1. The term "Albino" is applied to a variety of Italian bees lighter in colour than usual, and which have distinct rows of white hairs on the respective segments of the abdomen. Professor Cook, of America, however, says they are not a distinct race, and that he has often noticed the so-called Albinos among colonies of Italian or Ligurian bees. 2. *Albino Drones.*—Regarding Albino drones, the case is entirely different; these latter being drones with white heads and white eyes quite devoid of colour. Sometimes the eyes are red. They are not very uncommon among the crosses of Black and Italian bees, are perfectly blind, and are supposed to be in some way diseased.

*** *Several interesting letters are in type, and will appear next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

TEN HIVES (Blow's) of BEES, 25s. each. Particulars free. SUTTON, Burston, Diss. 801

FOR SALE, ten SKEPS of BEES. No reasonable offer refused. J. BRUCE, Broad-street, Ely, Cambs. 787

SEVERAL CWT. CLOVER HONEY in 28-lb. tins at 56s. NOYES, Pewsey, Wilts. 794

THREE stone pure HONEY. What offers? JOHN CRAWLEY, Whaplode Manor, Holbeach, Lincs. 792

FOR SALE, cheap, twelve strong healthy HIVES of BEES. Will sell whole or part. J. MEPPEM, Burgess Hill, Tonbridge. 788

LODGINGS for SUMMER MONTHS on the Bristol road. Very healthy. Mrs. ROSS, Parkend Villa, Putloe, Glos. 790

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 798

EXTRACTED ENGLISH HONEY, 11s. 6d. per ½ cwt.; tins free; sample 2d. Deposit system. R. DUTTON, Terling, Witham, Essex. 711

GOOD HEATHER HONEY, in 1 lb. Screw-cap Jars, 8s. 6d. per doz.; carefully packed. F. GARNETT, Well, Bedale, Yorks. 799

BEAUTIFUL HEREFORDSHIRE HONEY in 4-lb tins. Sample, 3d. CHARLES, Much Marcle, Gloucester. 797

WANTED, a JOINER for workshop. I will give opportunity to learn modern Bee-keeping. J. H. HOWARD, Holme, Peterboro'. 797

TO CLEAR.—No reasonable offer refused. Twenty healthy STOCKS of BEES in skeps. Mostly last year's swarms. J. BOWES, Appleton-le-Street, Malton, Yorks. 794

FOUR strong STOCKS in skeps, '99 Queens, guaranteed healthy, 12s. 6d. each. Sound White Elephant Seed Potatoes, 2s. 6d. per bushel. Two or more, 2s. 3d. WOODS, Normandy, Guildford. 795

FOR SALE, seven STOCKS; one on Standard Frames, one on my "W.B.C.," and five skeps Foul Brood, unknown. TILDESLEY, Links Apiary, Glascote, Tamworth. 803

WANTED, Exchange in BEE APPLIANCE for Minorca eggs. Guaranteed from winners last season. Birds and eggs on sale. T. STEWARD, Poultry Farm, Isleham, Cambs. 796

24TH YEAR.—Reliable STOCKS in standard hives, ten wired frames, 32s. 6d.; eight ditto, 20s. (frames only); six ditto, 18s. SKEPS, 12s. 6d., 15s. ALSFORD, Expert, Elandford. 799

WANTED, in Exchange for Violin, Bow, &c. complete in case, two STOCKS BEES in skeps, or one in strong Bar-frame Hive. Must be strong and healthy. A. HALL, Many Pitts Marten, Moss Side, Blackpool. 791

FOR SALE, 45 lb. pure BEESWAX in one cake (1898). Also 56 lb. in two cakes (1899). All at 1s. 6d. lb. Sample for stamped addressed envelope. G. WELLS, Eccles, Aylesford, near Maidstone, Kent. 785

FOR SALE, first quality extracted ENGLISH HONEY (white clover) 6d. lb. in tins containing about 1½ cwt. each. Sample, 2d. Deposit system. SUNDERLAND, Egginton Vicarage, Leighton Buzzard. 789

WANTED to EXCHANGE "Nonpariel" 100 egg incubator in good condition. New last year. Cost £4. What offer in bees, in skeps or frame hives, or bee appliances? or sell £3. HY. DEVEREUX, Shillington, Hitchin, Herts. 786

FIVE-FRAME CARNIOLAN HYBRIDS. Early Spring delivery, 21s. each. FRANK REED, Portslade, Sussex. 778

"W. B.C." HIVES, FEEDERS, SWARM CATCHERS. Make your own at third the cost. For particulars, send stamp to PRIDEAUX, Whitchurch, Salop. 777

WANTED, a WORKMAN who understands making comb foundation. ABBOTT BROTHERS, 23, Merchant's-quay, Dublin. 775

FOR SALE, three strong STOCKS of BEES in frame hives, with extra sections, crates, extractor, and every requisite. G. B., East Hill, Brackley, Northants. 785

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Concluded from page* 123.)

Mr. James Lee then exhibited a three-frame observatory hive, intended for use in a study or other suitable room. It was, in some respects, similar to that which took first prize at the "Royal" Show at Maidstone in June last. The hive revolved on the projecting hollow axis of a pair of wheels, through which the bees found access to the interior. The wheels, being made of well-finished brass, accurately turned in a lathe, worked with perfect smoothness, and without any unsteadiness or vibration whatever. The sides were of double plate-glass—an expensive item, but worth the extra outlay in an observatory hive, as insuring a natural view without distortion of the objects under observation. One of the glazed sides of the hive could be readily taken down for the insertion or removal of combs and bees. A space was provided on the top for working four sections. There were also baize-covered shutters for covering the glass when desirable. An interesting addition was the special feeding-arrangement, whereby every movement of the bee's tongue (necessarily protruded to take the food) could be seen and measured. Under the feeder was a ventilator regulated by a slide. The hive was so constructed that from the time of each bee passing through the opening at lower part of the window until it reached the entrance proper to the hive, and again after it emerged from the hollow axis into all parts of the interior, it was never lost to sight; thus all its movements could be observed. In reply to the Chairman, Mr. Lee explained that he had overcome the difficulty of condensation (pointed out at Maidstone) on the glass covering the entrance way. This had been managed by raising the glass cover slightly, and by cutting away 3 in. or 4 in. thereof nearest the window, and replacing that by a perforated ventilator of woven wire or other suitable material, by which the warm air of the room could be admitted direct into the entrance way, and condensation avoided.

The Chairman, Mr. Hooker, and others complimented Mr. Lee on his observatory hive, which was a beautifully made appliance for the purpose.

Mr. Buller, Mr. Pugh, and Mr. Young deprecated the conveyance by rail of observatory hives and bees without a person in charge; the latter gentleman referring to an instance at the "Royal" Show where the railway company left such a hive exposed in the station yard for two hours in the sun, with the result that half the bees were found dead on arrival at the show ground.

Mr. Lee also exhibited a neat case fitted up for educational purposes, for the use of lecturers and in schools. It was provided with small trays and partitions arranged for holding objects for microscopic inspection, also for showing queens, drones, and worker-bees in juxtaposition, as well as the enemies of bees. The centre was made to hold a 1-lb. section of comb-honey. He had made and sent about one hundred of these to an educational firm at Leeds for use in schools.

Mr. Buller narrated his experiences with Cyprian bees, and denounced them as being savage; while Mr. Carr, though admitting the contention as generally true in the past, said that a lady bee-keeper of no small ability in Ireland, who had received three pure Cyprian queens from Mr. Dervishian, found no trouble at all in managing these bees, which, in her hands, were quite tractable—in fact, very much as described by Mr. Dervishian in the BEE JOURNAL (p. 104).

After a few words from Messrs. Buller, Hooker, and Brice on this subject, Mr. Lee, jun, presented for inspection a new glazed section-case of cardboard, which he had designed in consequence of complaints in the B J. regarding the difficulty bee-keepers experienced in glazing their sections. He claimed that the case shown was the most perfect of its kind yet offered for sale, a special feature being its ensuring to exhibitors safety from disqualification at shows owing to width of the lace-paper edging. The price was also low enough to enable bee-keepers to make use of them commercially.

Mr. Lee, jun., also exhibited a hive of his own construction, regarding which he explained that by a simple addition to the well-known "W.B.C." hive it was converted into a non-swarming hive. The addition comprised a three-sided stand to carry the brood-chamber over, and independent of a shallow-frame box placed below. In manipulating either this shallow-frame box or the brood-chamber it was impossible to crush a single bee. Another special feature was that, when desired, the brood-chamber could be set immediately on the floor-board, an admitted advantage at a certain time of year; while in hot weather, by inverting the movable shutter at back, the perforated zinc edging to the latter rested on the floor, and thus allowed a free current of air to pass from entrance to rear without raising the hive from its floor-board as was usually done to attain this desirable end.

Mr. Taylor said that the sliding-chamber arrangement he had made and sold in the "Ford Wells" hive during the last seven seasons. The sliding-chamber was intended to prevent swarming when the brood-nest was found to become overcrowded, the shallow bars underneath being removed when packing bees up for the winter, and the dead bees and refuse fell below without danger of choking up the entrance and were easily removed.

Mr. Hooker said he obtained a prize at the Alexandra Palace Exhibition for a non-swarming hive on similar principles, but Mr. Lee's exhibit was far in advance of anything he had done, or in any hive he had yet seen.

There being no other matters of special interest to bring before the meeting,

Mr. Jonas, in moving a vote of thanks to the chairman, spoke of the great debt the B.B.K.A. and all bee-keepers owed to him. It was now known to them that Mr. Till had felt himself obliged to resign the vice-chairmanship, and that was one of the most distressing pieces of news that had reached the Executive for a long time. They had in Mr. Till a man of wonderful energy; nothing seemed to daunt him. He came at a time in the affairs of the Association when an active and busy man was needed—a man who would, in the best sense of the word, busy himself about other people's business. They would remember what valuable assistance the chairman rendered in regard to the deputation to the Lord Mayor at the Mansion House in November, 1893. He sought and interviewed Sir James Whitehead, and made the meeting and presentation of a trophy of British honey to the Lady Mayoress a memorable success. It was also largely due to Mr. Till that the opportunity of the Grocers' Exhibition was taken advantage of by bee-keepers. He pulled them together and got them to seize the chance of coming to the fore; but perhaps his greatest work was in connection with the Dairy Show. That annual exhibition had during Mr. Till's vice-chairmanship become greater, especially with regard to bee-produce, than it ever was before. Their aims and objects were increasing in importance year by year, and he (Mr. Jonas) hoped that bee-keepers would not recede from the position Mr. Till had brought them to. They were all exceedingly sorry that the chairman had been compelled to resign his office, but they tendered him their sincere thanks and best wishes in his partial retirement.

A resolution of thanks was then formally moved, and carried with acclamation.

The Chairman said the resolution had been sprung upon him quite unexpectedly, but he was extremely obliged by their kind appreciation of his services. Mr. Jonas dealt in hyperbole, which, though very flattering, was undeserved. He (the Chairman) had done his best, but felt the time had come when other duties at home must claim more of his attention. He had not now the energy he used to have; besides, it was better to introduce fresh blood into the Association to ensure its permanence and progress. His partial retirement was not to gain ease in a certain sense, for the Association and its objects would still engage his thoughts and care; and he sincerely hoped that his successor would be able to accomplish more than he had done (cheers). The proceedings then terminated.

LINCOLNSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the L.B.K.A. was held in the Guildhall, Lincoln, by the kind permission of the Mayor, on Saturday, March 24, and was well attended; Canon Leslie-Melville presided, and amongst those present were the Revs. L. Dewhurst, C. S. Nevile, and S. Wild; G. J. Young, Esq., J.P., Dr. Sharp, Messrs. F. J. Cribb, J. Emerson, R. T. Warrener, F. H. K. Fisher, R. J. Glew, A. W. Weatherhogg, H. Pears, H. J. Banks; Mrs. G. Pilkington, Miss Ada Morley, and R. Godson, hon. sec. The annual report and balance-sheet was presented by the secretary; they showed that a satisfactory year's work had been done, but regretted the withdrawal of the grant of £25 from the Lindsey C.C. The income for the year was £166 5s. 6d., and the expenditure £146 17s. 4d., thus leaving a balance of £19 8s. 2d. to be carried forward. The honey season was, for the most part, an excellent one, and large "takes" of excellent quality had been reported. Subscriptions were given to increase the prizes for honey at twenty local horticultural shows. There had been an increase of thirty-nine members during the year, and the list now numbered 549 names. The annual exhibition of the Lincs. Agricultural Society was held at Louth, and the bee and honey department was under the management of the Association, and this show was one of the best ever held in the county. The forthcoming show, which will be at Spalding, will again be managed by the Association. The report and balance-sheet were adopted. A discussion on the subject of dark honey took place, whether it was desirable to have classes for such at shows. It was thought that such classes would be beneficial, as all the light honeys took the prizes. Eventually it was decided to obtain from the British B.K.A. the proposed standard tints.

Dr. Sharp gave a most interesting lecture on beeswax, touching upon its production, uses, quality, adulteration, &c.; and gave practical instructions as to the rendering of cappings and old combs. The lecture was well illustrated throughout by special lantern-slides prepared by the lecturer. A drawing for hives and other useful appliances took place, and, with the usual votes of thanks, closed a most successful meeting.—(*Communicated.*)

CORNWALL B.K.A.

ANNUAL MEETING.

The Cornwall Bee-Keepers' Association held its annual meeting at Truro on March 28, under the presidency of the Hon. J. de C. Boscawen. In proposing thanks to the officers, Mr. W. K. Baker congratulated them on the success achieved and Mr. T. R. Polwhele (hon. sec.) on the very good report he had been able to issue. This was seconded by Mr. A. Curnow and carried. Mr. Polwhele said the num-

ber of subscribers who kept bees was largely increasing. The report, as presented, is a record of growing usefulness. It stated, among other things, that, after an existence of five years, the Association dropped out of existence; but, ten years later, in 1896, it was resuscitated under the guidance of Mr. W. K. Baker and Mr. T. W. Cowan, president of the British Bee-Keepers' Association. It seems now to be justifying its renewed lease of life. The Hon. J. R. de Clare Boscawen is president, Mr. T. R. Polwhele hon. secretary and treasurer. The Association aims at bringing under public notice improvements in the art of bee-keeping; diffusing knowledge of elementary principles through the agency of horticultural and cottage garden shows; sending out experts and examiners of apiaries, who will assist owners for a small fee; and giving lectures wherever possible. A bee tent is sent round to shows and the formation of cottagers' clubs is encouraged.

The Association's receipts for 1899 were £137, including £26 balance from 1898, £85 from the County Council, and £26 in subscriptions. The principal expense was £44 for an expert, and there is a credit balance of £67 in hand.

The Hon. J. Boscawen was re-elected president, and the committee, with the addition of Mr. Jevons and other officers, were also reappointed. To the district secretaries were added Rev. H. Harrison, Constantine, and Mr. Jevons, of the Meneage district. The County Council was thanked for its grant. Mr. Baker suggested some action with a view to getting stocks of bees on the fruit plots used for technical instruction purposes, and the matter was referred to committee. —(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[3938.] We are now in the fourth month of the year, and it may be said that March, now over, has been very dull and cold, with rarely a day's sunshine to brighten the earth from first to last of its thirty-one days; indeed, it departed in a fog in this district.

The bees have not extended the brood-nests as they would have done if better bee weather had prevailed; the fields about us here are bare, with scarcely a dandelion opening its yellow blooms. Fruit trees of all kinds are also late, and very fortunate it is for the fruit-growers that this is so, seeing that night after night we get severe frosts which would have speedily killed any bloom exposed to their biting force. Yesterday (April 1) and to-day the sun has been shining brightly, and the wind veered round from north-east to nearly west this afternoon, so we may hope for a speedy change to more spring-like weather. The almanacs tell us spring has commenced, but we bee-keepers will fail to appreciate such a cold spring as it has been hitherto.

I was very sorry to see that our old friend Mr. W. Stokes had passed away; I had often wondered if this deplorable war had affected him in any way.

Equalising Stocks.—Referring to the letter in last issue on this subject (3931, p. 122), this is, as our Editor says in his footnote, "not a new idea," and in a general way I should not myself advocate putting it into practise because of the "risks" mentioned. There are times and seasons in which it may lead to success, but the environments are not negligible quantities in reaching success by these means. The weather, for one thing, has much to do with the matter; if a fairly strong stock is given an extra comb of brood and the bees already have as much as they can cover, and the night should prove cold, some of the outside brood in the hive would stand a chance of being "chilled," a fact which would not improve the condition of the stock. Besides, a comb of hatching brood taken away from even a strong colony must reduce the strength of the stock from which it is taken, and provided the "strong colony" in question has room in which to store surplus, it seems to me that the latter may as well be stored in one hive as another; anyway, the result would be equally good and the average as high, while if we got "chilled brood" it may detract somewhat from the total. In dealing with a small number of hives located in a sheltered spot, with careful management it may, of course, pay, especially if some queens are extra prolific, but this would require forethonght, and provision to be made so that the brood should be nearly ready to hatch out when given to the weaker stocks. The better average of our friend "C. B." may have arisen from better forage, resulting in an increased honey-flow, and more suitable weather during the honey harvest, and not from the equalisation of stocks. To young hands in the craft I should repeat *Punch's* advice to those about to marry —"Don't!" With the cautious "old hand" the matter is entirely different; they have been along that way, and are quite capable of taking care in not overdoing it, and would soon return to the old style.

Our friend, Mr. R. Brown, of Somersham, some time ago constructed a candy-feeder as an "equaliser," but this was suitable only for the double-queened or "Wells" hives, and not for ordinary or single hives. An American bee-keeper also devised an "equaliser," his plan being to fix four hives or more on a large platform which revolved,

and from day to day he turned round the platform, so that one hive took the place of the hive in that position on the previous day. This was supposed to equalise the several stocks, but I doubt if it increased the ultimate output of the four colonies dealt with.—W. WOODLEY, *Beedon, Newbury.*

MANIPULATING BEES.

A LADY BEE-KEEPER'S METHOD.

[3939.] The articles which have recently appeared in the B.B.J. on the manipulation of bees are most welcome and helpful. There are one or two details, however, which in practice I have found so useful that you may think fit to insert them. Doubtless, they are not original, but they have not been mentioned lately. I find it is better not to uncover and expose to the light all the frames at once, and I always—except in early spring, when much manipulation is not desirable—use wet quilts. By "quilt" I, of course, mean the thin square of calico which I always use next the frames. My *modus operandi* is as follows :—Taking two clean quilts for each hive, and a basin of water, slightly diluted with some antiseptic (I use a few drops of Izal, because it mixes readily with cold water and the bees do not object to the smell), I dip the quilts in the water and wring them out dry ; then, after removing the top (warm) quilts, I join the end of the thin quilt on the frames to that of the damp one, holding it firmly with both hands, and gently strip one off and the other on at the same time. I leave the damp quilt, which adheres closely to the frames, on for a moment or two, then raise it and take a general look at the bees, who remain quietly in seams between the frames; then lowering it, I fold back enough to expose the first frame—having my second damp quilt ready—and as fast as each frame is taken out and examined cover it with the second quilt, moving back the first till, when the work is done, No. 1 quilt is off the frames and No. 2 on. By this means I find I can dispense *entirely* with a smoker, and can go through my entire stock of hives without a sting and without crushing a bee. The advantages of the damp quilt, are many. The slight disinfection of the water helps to prevent chance of foul brood; the bees do not, I find, propolise them so much as they do dry quilts ; probably they cling so closely to the frames as to make much propolisation unnecessary, and if there is a little wind when manipulating they do not blow about ; last, but not least, one puts on fresh clean quilts every time. I always have the old ones boiled in soda and water, then washed in the ordinary way. I use squares of unbleached calico and have not less than two for each hive. I may add that the use of the damp quilts on section-racks keeps the sections beautifully clean.

Your former article rightly insists on the importance of quietness. It is the *sine qua non* of successful manipulation. It may take a little longer—but is it not better to give a hive a thorough examination while you are at it ? which is only possible when bees are so handled that they do not appear to know they are being touched : a soft gliding motion of the hands from *below, up ;* rather than from *above, down.* Bees seem to dislike being pounced upon, and a sudden movement or a jar sets them on the buzz at once. Should such by accident happen, a total cessation of all movement for a minute or two suffices to quiet them again. "Treat your bees well and they will treat you well," holds good in the majority of instances. Stocks of bees differ, so do individuals—study their peculiarities and you will be all right. For instance, I have one stock which dislikes the smell of other bees, and are always cross if I have been at another hive before coming to them. *Now,* I always go to them first and they have the tempers of angels. I have only once had to supersede a queen because her progeny was incurably vicious. The remedy is simple.

I am much in sympathy with the article on "Bee-keeping, viewed by an Amateur." That is my case, precisely. I do not care for bees as a commercial factor at all, and very rarely sell any honey, but I like experimenting with bees, hives, and appliances, and get an enormous amount of enjoyment out of what my family call "Grannie's dear little bees !" I am promising myself an observatory hive in the near future on the model of the one lately described in your pages.

What would bee-keepers do without the B.B.J. ? though, personally, I owe a debt of gratitude to the kind help of the able and courteous expert of the Irish Congested Districts Board, Mr. T. B. O'Bryen, to whose enthusiastic and energetic efforts is due the enormous increase in hives and honey in Ireland the last two years, as mentioned on page 101 in the B.B.J. of March 15.—C. A. P., *co. Kerry, March* 21.

(*Correspondence continued on page* 136.)

HOMES OF THE HONEY BEE :

THE APIARIES OF OUR READERS.

Mr. Falkner, whose neat little apiary—along with himself—is shown this week, is another of the useful class of bee-keepers who assist in extending the industry. He says of himself :

"*Re* your request for a few lines about myself and my bee doings, I should like to say I am a town postman, and as my duties allow me a few hours to spare during the day, I have taken to gardening as a special hobby.

"During the summer of 1887, when the Leicestershire Bee-keepers' Association held a meeting in Market Harborough, and as on attending this meeting I learned something on the advantages of bee-keeping, I resolved to become a bee-keeper.

"I began by buying a stock of bees in a

skep. I next bought a 'Modern Bee-keeping' and 'Cowan's Guide Book.' After reading these I looked up an old bee-keeper living in the town, and after telling him of my start, asked would he help me. This he willingly undertook to do, and he also invited me to assist him with his bees in the spring, and see some practical work among the hives, an offer which I very gladly took advantage of.

"During the winter months I made a bar-frame hive, which hive I have still at work; it is seen in the centre of the photo. In the early part of the following summer I transferred the bees and combs from the skep into the frame-hive with the help of my bee-keeping friend.

MR. W. W. FALKNER'S APIARY, MARKET HARBOROUGH, LEICESTERSHIRE.

"About this time I commenced to take the BEE JOURNAL, and have taken it all along. I also joined the Leicestershire B.K.A., and found it to be a great help to me, as I was able to attend their meetings and rub up against some old bee-keepers who were always ready to give advice to beginners like myself and help me. I am now one of the district secretaries and experts for the above Association, having obtained my third-class expert's certificate at the 'Royal' Show, Leicester, in June, 1896.

"When I first became a bee-keeper you could count them all on one hand who were bee-keepers in Market Harborough (including the late R. Symington, Esq., who was one of the first members of the 'British'); now there are upwards of thirty, most of them members of the L.B.A. I only have six hives, and these I work on the 'W.B.C.' plan. I run four of them for 'extracted honey,' the other two for 'sections.'

"The frame-work seen over the hives is covered with canvas during the summer for shade, as the hives facing due south get the sun all day. I find this is a great help to the bees, as they do not want so many fanners. And it also helps to prevent swarming. I have only had one swarm in six years.

"I also place a piece of board about 6 in. wide and 1 ft. long in front of the hive entrance during the winter months, lodging it on the alighting-board and resting it against the front of the hive. This I do to keep the sun from shining direct into the entrance.

"My first 'take' of honey weighed 9 lb. My heaviest was secured in 1897, when I got 124 lb. of surplus from one hive.

"I have always been able to sell my honey, making a fair price of it. I put most of it up into nominal 1-lb. jars and sell at 1s. each retail, or 9s. per dozen.

"I don't know that I have anything more to say unless it is that I have been to the 'Royal' these last five years and have had the pleasure of shaking hands with most of the officials of the 'British' including the worthy Editors of the BEE JOURNAL."

CORRESPONDENCE.

(*Continued from page* 134.)

THE SCOTTISH BEE-KEEPERS' ASSOCIATION

FROM A SCOTCHMAN'S POINT OF VIEW.

[3940.] Have we such a society? If not, why not? If alive, why does it not make its existence felt? If dead, why have we never had its requiem sung? Such and many similar questions are being bandied about among Scottish bee-keepers. The time is ripe, I think, for probing the matter and settling it. My *alter ego* whispers me that "there is a danger in treading on thin ice," and a further gentle murmur seems to strike on my auricular tympana to the effect that some folks "rush in where angels fear to tread." Personally I would prefer to accept *laisser faire* as my guide, for it suits an easy-going nature best; but at the call of duty it becomes every true bee-man to be up and doing. Most of this article will be largely historical, though I may incorporate a few personal opinions and seek to draw some natural deductions from the premise I start with.

Many years ago we had an Apiarian Society in Scotland, but it came to an end after doing good work in encouraging and fostering bee and honey shows. Just nine years ago almost to a day the S.B.K.A. was *instituted* by a gentleman all bee-keepers hold in high esteem for his noble and earnest efforts in a good cause. I never liked the above description of the inauguration of what ought to have been a national and spontaneous effort. It sounded too much like a "one man" affair, and the results proved that this feeling was more than sentiment, for our bee-men seemed to act on the principle of trusting in Providence for success and in Sir Thomas Gibson Carmichael for cash. Details of its doings would be tedious, but I might be allowed to give one or two items from its report of 1894, when the association should have been firmly established. The membership is said to have amounted to 318, yet the subscriptions reached only £25 15s. They ought, at 2s. 6d. a member, to have been £40—not counting patrons, honorary and life members, and fees from affiliated associations. You, sirs, in commenting on the matter, exactly described the circumstances when you said, "The too liberal financial support Sir Thomas gave somewhat demoralised them. Shows and association, therefore, failed from the business point of view." Why in the same year over £100 were given in prizes at shows, and I believe the printing—including the annual report—cost over £40; add to this the multitude of incidental and necessary expenses connected with shows and management; and all this out of an income of £26! No wonder the annual report contained the following sentence: "But for the handsome donations of several friends the association would have shown a very considerable deficit." I think it follows almost as a necessary corollary that at the very next meeting in February, 1895, president and secretary resigned and the society somehow mysteriously disappeared. For nearly two years it was practically extinct and threatened to sink into oblivion till repeated appeals in the pages of the B.B.J. and your monthly, the *Record*, galvanised it into temporary being. In 1896 it was resuscitated; again mainly by the persistent and heroic efforts of *one man*. In that year an impassioned appeal was made in the journal in April and again in July by one who is now "at his country's call" in South Africa. This reverend gentleman, largely by his untiring energy and hearty zeal, gave the association a new start. He volunteered his services as secretary, and called a meeting in Glasgow, the success of which he described to me at the time in glowing terms. He was, I know, very sanguine of the success of his scheme, declaring that "Never was there more need for a S.B.K.A., and it never had a better chance of success." The meeting unanimously and enthusiastically agreed to continue the association, and adopted its constitution and rules *en bloc* Later on the Rev. Mr. McClelland issued another appeal, calling for "not so much money as men and *personal effort*" (the italics are mine). The little bark was thus launched, but I fear it encountered difficulties from its initial start. I do not think it was so much storms or even head winds, as a dead calm. It had to contend with the chilling coldness of callous indifference. The undoubted enthusiasm of the secretary must have been sorely tried by the wet blanket thrown over his best efforts. He, too, resigned, after holding office for about a year, during which a show was held. The only meeting which took place he described as "fair" in attendance, and the best he could say of the progress was that it was "slow." A new secretary was appointed, but, up to this date I have not heard of his existence or the existence of the association he is supposed largely to guide and direct. Letters and paragraphs have been appearing for some time in your contemporary, the *Scottish Bee-keeper*, from parties evidently ignorant of the above facts. They take it for granted that it has ceased to exist and call for what I may describe as its *re*-resuscitation. All right if it can be done. I am heartily and loyally patriotic, and would welcome any feasible scheme founded on a stable basis. But *cui bono?* Are not three failures in less than a single decade a sure proof that, be the cause what it may, something is lacking to secure success? I have heard that something described variously—want of combination; want of "personal effort"; trusting to "one man"; lack of enthusiasm; and even a spirit of jealousy and antagonistic "caves" have been named. I won't specify which of these diseases did the deed, but evidently, to judge

by its fruits, it is a killing one. I would be the last to throw cold water on any movement, but I must recognise the inevitable, and would repeat and emphasise the conclusion of the editor of the *Scottish Bee-keeper*, who says, "We fear the movement has fallen a little flat. Apparently, the bee-keepers are a little chary of making another attempt to resuscitate the association."

Failure, then, being thus demonstrated so clearly in the past, it follows, I fear, as a natural sequence that further efforts on the old lines are just as likely to prove failures. If, then, we have been on the wrong tack, is it wise to persist in moving further thereon, pursuing a will o' the wisp? We have come to an *impasse*. Why not retrace our steps and start on a new track?

We already have a "*British* Bee-keepers' Association." Why not join it? Confederation, affiliation, union, combination, or amalgamation—call it what you will—is in the air at present. Why not amalgamate or affiliate with the *British* Bee-keepers' Association? We are true Britons every one. The "Scots wha hae" sentiment is a good and noble one, but "Imperial Union" is a better, nobler, and more exalted one. Let us have a union of hearts, hands, and associations!

Let me end by quoting a few lines from your "leader" on "The Work of Bee Associations" in B.B.J. of June 4, 1896, wherein you observe:—

"This should lead to a consideration of the question whether or not Scottish bee-keepers will consider it advantageous to the pursuit to allow their county associations being affiliated to the B.B K.A. in the ordinary course. It is difficult to see any objection on the part of our Scottish friends to this: Any bee associations they possess are as much *British* bee-keepers' associations as English or Welsh ones."—F. E. I. S., *March* 31.

WORKING FOR EXTRACTED HONEY.

MY YEAR'S RESULTS, "MARKETING" INCLUDED.

[3941.] Your interesting article in BEE JOURNAL for March 22 (page 112) on working for extracted honey gave me the idea that a year's results in working on this plan might afford pleasant reading to your amateur bee-keeping readers like myself. Though I have kept bees on a small scale for about ten years, I did not, until 1899, keep an exact account of the year's income and expenditure.

My stock in the spring of 1899 consisted of ten hives, five of these being "W. B. C.'s," two were ten-frame single-walled hives, and one a nine-frame hive. The remaining two were stocks of driven bees, four driven lots being united and put in a hive made for Standard frames on shallow frames of comb (full of honey and pollen) which I happened to have on hand the previous autumn, when I generally drive from thirty to forty skeps for neighbours, whose bees are thus saved.

The only spring feeding was done on March 1, when each hive got a couple of pounds of soft flour-candy. On May 29 supers were put on eight of the ten hives with "W. B. C." wide ends, and half sheets of comb foundation (wired). On the same date I examined the two driven lots and found that each had built comb below the bottom bars of the shallow-frames, right down to floor boards, and were full of brood and bees. These two hives I lifted up bodily and placed a "W. B. C." hive under each, with full sheets of foundation in the frames, and left them there until the end of the season, when I put a super-clearer fitted with Porter escape between, and after the bees had cleared out, removed the top hives full of honey, the brood-nest having been moved below.

I placed additional boxes of shallow-frames on the other eight hives, as required, during the summer, in some cases putting them *above* the others then on, in other cases *below*, with no marked difference in results. The nine frame hive only filled two supers, six of the others filling three and the other one yielded four. All my honey was taken off between August 16 and 31. On August 16, I took off two supers from one hive, and they weighed 95 lb. just as removed from the hive. I put another super on this hive, in the place of the two removed, and a fortnight later took it off full of heather honey. I may mention, that my apiary is situated about half a mile from the heather, and my bees were carrying in honey, without cessation, from the middle of April, to the end of October.

On August 30, I removed three supers from one hive which weighed 128 lb. I dated the supers in ink, when placing them on the hives, and when extracting, kept the honey of different dates separate for grading purposes.

The "Porter Bee-escape" worked splendidly, with only one exception; my general plan was to put it on in the evening and remove the supers *en bloc* the following day totally clear of bees. In the one exception named the queen had got up into the super somehow, through the excluder zinc, which I use on all my hives, and had deposited a large quantity of brood in the combs, and as it was impossible to find the queen in the three shallow bodies all crammed full of bees I had to take out the shallow-frames and shake the bees off on to the alighting board, consequently the bees of this hive were rather vicious when I went to them the day after putting the clearer under, but they recovered their temper when they again had access to the queen.

On July 21 I found a swarm in the hedge by my apiary. These I hived in a "W.B.C." hive with ten frames and full of sheets of foundation, which I invariably place in every hive. I did not take the trouble to find out from which stock it came, though I listened a week later for the "piping" of the young queens, but failed to hear them in any hive.

This was the only swarm I had last season, and the whole of my stocks at this date (March 29) have wintered well. Each colony had the usual dose of soft candy a month ago. My apiary to-day consists of eleven hives, viz., eight "W.B.C.," the two single-walled hives, and the nine-frame hive, which will be transferred in April into a "W.B.C."

I did not feed any of the stocks last autumn, as all had sufficient in the body-box, which I never interfere with as regards removal of honey. I also leave the whole ten frames in hives summer and winter. I buy the "W.B.C." brood-chambers and shallow bodies in the flat and nail them up myself, as being economical. In making up the shallow bodies I generally leave about ⅛ in. under the shallow bars, but I find that this space between the second and third tiers is always filled with brace-comb, though the bottom one, above excluder, is kept perfectly clear; thus, the three or four supers are, in reality, like a single comb, 18 in. to 2 ft. deep, and cause some trouble in separating from each other, and the weight of the four tiers of shallow bodies, when lifting to place the cleaner under, requires a strong arm.

Would you kindly mention, Mr. Editor, what distance you allow below bottom bars in shallow bodies? The following is the financial aspect of my year's working:—

BALANCE-SHEET FOR 1899.

Value of Honey and Assets.

138 lb. honey in screw-cap jars at 9d.	£5	3	6
344 lb. honey in bulk at 6d. ...	8	12	0
36 lb. honey, gifts to friends, &c. ...	0	18	0
25 lb. honey for home consumption	0	11	6
11¼ lb. wax at 1s. 8d.	0	18	9
200 shallow stock-combs at 3d. each	2	10	0
Two hive bodies in stock at 2s. 6d.	0	5	0
Twenty-two shallow-frame bodies 1s. 6d.	1	13	0
2 lb. "Weed" foundation at 2s. 3d.	0	4	6
Tin honey-vat, valued	0	10	0
One extractor, valued	1	10	0
6 gross "W.B.C." ends, 2s. 6d. ...	0	15	0
½ cwt. honey-tin	0	2	6
Travelling crates	0	3	0
	£23	16	9

Disbursements.

One "Raynor" geared extractor ...	£1	12	6
Honey-vat (holds 4 cwt.)	0	12	0
Railway charges, &c.	1	10	10
Postages, printing, labels, &c. ...	1	8	8
Subscription to BEE JOURNAL ...	0	6	6
Appliances (Standard and shallow bodies in the flat, "Weed" foundation, frames, "W.B.C." ends, excluder zinc, screw-cap jars, &c.)	6	12	4
Surplus balance	11	13	11
	£23	16	9

I have not entered anything for rent, as being my own landlord I pay none.

My last lot of honey sold was despatched last week. The 138 lb. of honey at 9d. was sent to London. The 344 lb. at 6d. was sold within a radius of ten miles of home, and yet I have neighbouring bee-keepers who complain that they cannot find a market for a score pound or so. My total take of honey from the ten hives was 541 lb. I only exhibited once, and on that occasion took first prize. I looked over my 200 shallow frames of built-out comb a few days ago and found them in excellent condition; no trace of wax moth, and not a pollen or brood cell in the lot.

Should you, Messrs. Editors, like to have a photo of my apiary, which is beautifully situated, with a small brook flowing in front of the hives, which latter are placed on a terrace constructed especially for them, I will have it taken this summer, when work is in full swing, and send you a copy.—BRIDGEFIELD, *Llandebie, R.S.O., March* 29.

[Allow only ⅜ in. below bottom-bars of surplus chambers. We will gladly include a view of our correspondent's apiary in our "Homes" pictures, and meantime congratulate him on the satisfactory report given above.—EDS.]

NOTES FROM ESSEX.

RESULTS OF SPRING EXAMINATION.

[3942.] I managed to overhaul my bees last week by going through half of them in the warmest parts of two days. Nothing is more trying to bees than a long, wet winter, and as a cold and late spring has been, or is being, added on to the adverse conditions before prevailing, it becomes all the more necessary to take advantage of the first opportunity to place the condition of the bees beyond a doubt. Though my hives were all left well stored with food in the autumn, I found the supply at the present time to be small, even bearing in mind that it is now April. It is well known that a wet winter tells severely upon weak colonies of bees, and my recent overhauling further confirms previous experience that strong colonies, with sufficient stores, and headed by a good queen, will come successfully through anything that we may expect in our winter in good condition. I made a complete overhaul and did some cleaning that had become necessary through absorption of moisture by the refuse on floors of hives, and I also made "notes" as to condition. Some hives I found full of bees, with brood in four combs. The wax-moth was very troublesome last year, and some of the larvæ that hatched in the late autumn I found last week as thick as wheat straws, and this made me wonder what will be the condition of combs this spring where bees are not overhauled. I found that the bees had made a passage through one comb in their efforts to catch one of these giant larvæ. I heard of two supers of honey being quite spoiled last year by the larvæ of the wax-moth.

There are some bee-keepers who detain the

county expert to put on their supers in spring and take off their honey in the autumn. It almost gives one the cold shivers to think of bees having a super put above them while I am adding to the coverings of my hives. Stocks so treated cannot be expected to fight the wax-moth and do well. A peach or early plum tree in flower on a wall does not yield nectar while severe frosts and winds that chill to the marrow prevail. There was a great quantity of catkins on the hazel this year, but all are killed by the frosts and wind, and the flowers of the wych-elm are now being spoiled in the same way. The other evening I put 200 chilled and apparently lifeless bees in my hat. Some of them had laid upon the ground six hours, but after being upon my head for half an hour 90 per cent. of them recovered and flew off to their hives.—WM. LOVEDAY, *Hatfield Heath, Harlow, April* 2.

Queries and Replies.

[2362.] *Transferring Bees from Skeps to Frame-Hives. Feeding in Front of Hives.*—As the time is approaching for transferring from skeps to frame-hives, and of which I wrote you last August, a little information just now would be of great service. I have read with interest the queries and replies touching upon the same matter of late B.B.J.s, and it has saved me from asking some questions which I should otherwise have put to you. My three skeps of bees, last year's swarms, appear alive and healthy. Unfortunately, the skeps *have no feed-hole* at the top, and as *houses for bees* are *worthless*. Fearing they were short of food, I made some soft candy and put it on three or four plates in front of hives during the last few nice days, and it has been besieged with bees. The skeps have been kept wrapped up warm lately. 1. Do you advise me to continue this feeding outside on warm days? 2. As the spring is late, when would be the likeliest time for placing the skeps on the frame hives, so that the bees may transfer themselves below, as directed on page 356, last year? 3. Will this transferring prevent swarming this season? I am of opinion that two of them are not very strong, and would do better united into one frame-hive. If this is decided upon, what is *then* my *modus operandi?* 4. In ordering flower seeds for the garden, which dozen or more sorts would you advise me to have for the benefit of bees? I read both your journals with great interest.—W. H. BUCK, *Dawley, Salop, March* 31.

REPLY.—1. Giving food to bees on plates placed in front of hives at this time is not only risky but might start "robbing" by the bees of neighbouring stocks on such a scale as would cause the destruction of the bees in your skeps. If feeding is really necessary, a feed-hole must be cut in the top of skep; through this the food may be safely given if guarded against bees reaching the food from the outside. 2. Judging by present weather conditions and the general backwardness of the spring, the first week in May will be quite soon enough to set the skeps above frame-hives. 3. We advise you to come to no decision just yet as to "uniting," because a week or two may easily make so great a change in the condition of the bees as will surprise yourself as a beginner. Besides, the *modus operandi* you ask for—viz, particulars of transferring old combs from skeps to frame-hives—is one we so strongly deprecate—for beginners especially—that we would not take upon ourselves to promise a satisfactory result. 4. Garden flowers are chiefly helpful to bees in early spring, before the real honey-producing forage in the fields and orchards is available. In this way you might sow *Limnanthes Douglasii Arabis*, wallflower, borage, mignonette, sweet violet, melilotus, and ericas, along with crocus.

[2363.] *Using Naphthol Beta.*—The directions given on the packet of naphthol beta received through your office say, use "spirits of wine or pure methylated spirit." I wish to know if rectified alcohol would not be equally good or better?—W. J. M., *Newcastle, co. Down, Ireland, March* 23.

REPLY.—Pure alcohol (*i.e.*, rectified spirits of wine) is better for the purpose than what is termed "pure methylated spirit." The latter being methylated cannot, strictly speaking, be called pure, but it is sufficiently so for use in bee-food, and being so much easier to obtain than either alcohol or spirits of wine, is deemed good enough.

Echoes from the Hives.

Banffshire, N.B. — Since the advent of 1900 bees here have had only one or two days on which they could fly. The weather for the whole of the three past months has been broken and stormy to an extreme degree. Keen frost prevailed during a good part of February, and March has been very stormy, with high winds and a regular succession of snow, sleet, hail, and rain storms. I have never seen so many dead bees thrown out up to date as this year. All my stocks save one are, however, alive. It had ample stores in the outside combs but none in the centre, and the close cluster had succumbed to the cold and from want of stores close beside them, though there were plenty of bees and stores to carry them through. I had tried—as an experiment—wintering them with a rack of sections above the frames, and so lost a good stock of bees. "Fads" don't pay.—D. M. M.

Chichester, March 31, 1900.—Cold winds, hail, rain, and snow have been the rule during

the past month here in the South of England. On only very few days have the bees been able to leave their hives, evidently thinking there was "no place like comb." What little pollen the bees have been able to gather came from the crocus, but yesterday I noticed they were carrying a dark green pollen, probably from the laurustinus. I notice the palm-willow is now coming into bloom, and I saw one bee hurrying into its hive loaded with the familiar bright yellow pollen, probably from palm. I have lost three stocks during the past winter out of forty. One was queenless; another, being weak, was "robbed out;" and the third, no doubt was also queenless, as the bees appeared to leave their own hive and join forces with those that started to rob them. Several hives I found getting short of stores. Bee-keepers beware! and feed where wanted.—JOHN DANIELS.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. BACON (Walsall).—*Suspected Honey.*—There is nothing in sample of honey to lead us to suspect adulteration, though it is not of high quality by any means. Correspondents should not overlook the fact that to give a definite or authoritative opinion as to the perfect purity or otherwise of honey requires an analysis by a skilled chemist.

T. H. P. (Swaffham).—The hon. secretary of the Norfolk B.K.A. is Mr. C. J. Cooke, Melton Constable.

H. N. (Totnes).—*Dealing with Foul Brood.*—The stock must be more than "*slightly* infected with foul brood" to account for the queen depositing "from four to eight eggs in single cells of the combs, while the bees are fairly strong in numbers." If a sample of the affected comb is forwarded, having capped cells, we may be able to advise as regards treatment, but we cannot do so from the few and vague particulars given on post-card.

E. W. C. (Cornwall).—*Honey and Wax Samples.*—Honey received is a very fair sample, mainly from heather. It is good in colour and flavour. Both samples of wax are very good, quite up to show standard. We rather think No. 1 would be preferred by most judges, as possessing the more agreeable aroma. It is a little darker than No. 2, but may still be called "nice pale yellow" in colour.

N. A. HOSEGOOD (Croydon).—*Making an Observatory Hive.*—1. It is decidedly advantageous to have the sides of double glass for observatory hives. 2. Unless an air-space is left between the double sheets of glass the advantage obviously disappears. The air-space is therefore indispensable.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

QUEENS FOR SALE, reared 1899. Address, GAMBRILL, Tailor, Bagshot-road, Ascot, Berks. 809

JOINERS WANTED, used to bee-hive making.—E. H. TAYLOR, Welwyn, Herts.

WANTED, BEES in Exchange for some splendid specimens Stuffed Animals in Glass. SPEARMAN, Colesbourne, Andoversford. 816

FEW grand STOCKS of BEES, guaranteed healthy, strong carpenter-made hives, 35s. each. CLEVELAND, Margate. 815

SEVENTEEN healthy, well-provisioned SKEPS of BEES FOR SALE. TOWNSEND, Coneysthorpe, Malton. 814

HONEY.—1 cwt. splendid CLOVER, £2 16s., carriage paid. Good value. PAYTON, Glemsford, Suffolk. 813

1,000 LB. HONEY FOR SALE, cheap. 40 lb. sent on approval. Apply, JOHNSON'S APIARY, Soham, Cambs. 812

WANTED, HEATHER HONEY PRESS. State condition and price, SAMWAYS, Maesybont, Llandebie, R.S.O. 811

STRONG, healthy SKEP of BEES, 10s. 6d.; PURE HONEY, in 4-lb. tins, 6d. lb. R. C. VILE, Puckington, Ilminster. 808

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. SIMMINS, Heathfield, Sussex, F.N.

ENGLISH and ITALIAN BEES FOR SALE, in frame hives. THOS. HILL, "Scotlands," Cannock-road, Wolverhampton. 804

HIGH-CLASS HONEY, 50s. per cwt.; 28-lb. tins free. F. WOOLDRIDGE, Parliament-street, Chippenham, Wilts. 807

WILL EXCHANGE well-made LADIES' ARM-CHAIR, inlaid and upholstered in silk (new), for GEARED EXTRACTOR or 30s. cash. WHITE, Hazlemere, near High Wycombe, Bucks. 806

FOR SALE, cheap, six strong, healthy STOCKS of BEES on 8 to 10 standard frames in new hives. Can be seen any time. GEO. HAWDEN, Hutton Buscel, West Ayton, R.S.O., Yorkshire. 805

SIX good STOCKS of BEES FOR SALE, together or separately, some may be had in temporary hives which may be returned; a well-stocked "Wells" Hive and two Skeps included if desired. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

HOW TO SELL YOUR SECTIONS Profitably! Wrap them in the "Honeyslice" Section Wrapper, obtainable from all dealers, 2s. per 100. Send stamped envelope for sample to A. R. BELL, Beverley House, East Barnet. 810

FOR SALE, entire APIARY, containing 16 standard frame hives (including 13 stocks of healthy bees), supers, wax extractor and two-frame cylinder extractor, section crates, extracting supers, and every convenience for modern bee-keeping. Cash price £13. E. FRED. GOODING, Witnesham, Ipswich. 817

WOODLEY'S PREMIER HONEY. Selected White Clover, glazed in lace, 9s. per doz.; fine quality well-filled Sections, glazed in lace, 8s. per doz.; good Extracted Honey, screw-cap jars, 8s. 6d.; good Extracted Honey, tie-over jars, 8s. Carefully packed, cases free. W. WOODLEY, Bee Farmer, Beedon, Newbury.

SWARMING SEASON, 1900.—Healthy Natural Swarms of Woodley's selected strain of English Bees, 10s. 6d., 12s. 6d., and 15s.; headed with 1899 queens. Boxes and packing free. Safe delivery guaranteed. Orders in rotation. W. WOODLEY, Bee Farmer, Beedon, Newbury. Telegrams: "Woodleigh, Chieveley." Free delivery.

TEN HIVES (Blow's) of BEES, 25s. each. Particulars free. SUTTON, Burston, Diss. 801

SEVERAL CWT. CLOVER HONEY in 28-lb. tins at 56s. NOYES, Pewsey, Wilts. 794

FOR SALE, three strong STOCKS of BEES in frame hives, with extra sections, crates, extractor, and every requisite. G. B., East Hill, Brackley, Northants. 785

Editorial, Notices, &c.

"PARIS EXHIBITION, 1900."

CONGRESS OF BEE-KEEPERS IN PARIS.

We are requested by the Secretary to the Royal Commission for the Paris Exhibition to inform our readers that a congress of bee-keepers will be held in Paris from September 10 to 12 next.

Any further particulars may be had by applying to the Organising Secretary, Monsieur Caillas, rue du Docteur Blanche, 33, Paris.

COMB HONEY FOR MARKET.

We have, by request, reproduced below an exhaustive article of our own on the subject of comb-honey production. It has been partly re-written and brought up to date, and will, it is hoped, be found useful not only in giving full practical details of the work, but as being specially applicable to the methods of preparing comb-honey for market in this country.

In dealing with the production of comb honey, we shall treat the subject mainly from the commercial point, taking for granted that the bee-keeper intends the bulk of his produce for sale in the open market. It should, therefore, be understood at the outset, that the reader whose only object is to raise honey for ordinary family use may relieve himself of much of the trouble and care required when the product is intended for sale. In the latter case, an attractive appearance is almost as important as the quality of the honey itself, and, to obtain it in this form, a considerable amount of experience combined with "nattiness" is required. Of late years section honey, as it is called, has nearly superseded all other forms of comb honey produced for sale, and the folding wood section-box, as made in America and imported into this country, cannot well be improved upon as a portable and convenient receptacle for storing comb honey in.

In Scotland there still exists some preference for boxes of comb, and for single combs of heather honey, weighing 3 lb. to 4 lb. each, but elsewhere the 1-lb. section is in universal demand, very few producers using even the 2-lb. section-box. Premising, therefore, that bee-keepers who only require comb honey for home consumption will use such receptacles for its storage as are more convenient to handle, and less hampering to the free working of the bees than a rack of sections—with its twenty-one little clusters of bees divided one from the other by tin or wood separators—and all the rest of it, we pass to the consideration of the work absolutely necessary in order to produce comb honey in attractive and saleable form for market.

The first point for consideration is the choice of a "rack," or box, in which the sections are to be worked on the hive. Fig. 1 is the form most frequently made and sold just now. In

Fig. 1.—Section-rack.

it are placed twenty-one sections, fitting quite close together and against the wood of the rack on three sides. On the near side a movable dummy, of wood, is pressed close against the sections by a spring, as shown, keeping all firm and close together. Between each row of sections is placed a slotted divider,

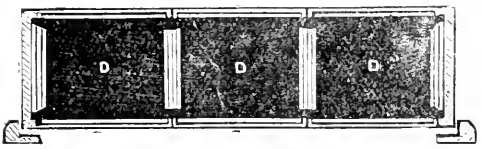


Fig. 2.—Slotted Divider.

usually of zinc, or tin, or wood, and cut in the shape shown in fig. 2, these dividers being imperatively necessary if section honey is to be properly prepared for sale.

The working of this particular form of rack,

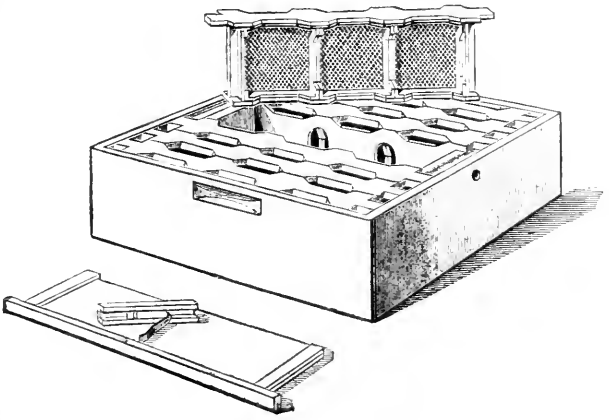


Fig. 3.—Frame-box for Sections.

however, is not, and never has been, to our liking. The sections are often so difficult of removal, and withal so awkward to handle piecemeal when on the hive, in any but the most experienced hands, that we have long looked upon it with a good deal of disfavour.

Attempts have been made to overcome the faults indicated by the introduction of what is known as the "Raynor" or divisional section-rack, which allows of sections being removed or handled in single rows, so that the centre row may give place to those outside when the former is nearly completed. This was a step in the right direction, but we have always considered that sections should be worked in some form of box which would allow of as easy handling and examination as a box of shallow-combs, and yet so completely cover and protect the wood of the sections from becoming soiled by the bees, that they could be turned out for sale as clean and fresh-looking as when put in.

The cut (fig. 3) gives our idea of a workable section-box for a ten-frame hive. In it are seven frames, 2 in. wide, and each holding three $4\frac{1}{4}$ by $4\frac{1}{4}$ sections. There is the usual space at sides and below the frames. The separators are of wood, permanently fixed to the near side of each frame, the dummy, or "follower," having a full bee-space on the face next the separator, to prevent crushing bees when closing up. There is also a free passage between the sections on all four sides, and a very little trouble will enable the bee-keeper to reduce the number of sections to as few as the bees can complete as the season closes. A wedge, cut so as to be capable of easy removal, is inserted on the right of each frame, and presses the sections close up together. When ready for removal, this wedge is withdrawn, a thin-bladed knife passed round the outside of sections, and when they are turned face down, the frame may be gently lifted off them, as the sections will come out by their own weight. Hand-holes are provided for lifting by, and the small circular hole seen on the right is to allow of the escape of any odd bees which may get into the space below the ends of top bars when the section boxes are being storified one above another. There is nothing very new or original in this box, so far as working sections in frames go. The idea has been acted on ere now in several forms, notably in the wide frame for securing sections of comb-honey in hive-bodies or brood-nests; but the results have hitherto been so generally unsatisfactory, that few now use them, except in getting sections started for removal afterwards into the ordinary rack. What we do think has been secured in the box (fig. 3) is the removal of the faults and imperfections found in others of the same type, so that, as we said at the outset, sections may be worked as readily and as comfortably as shallow frames for extracting are. So far as our experience has gone in using these boxes, they accomplish the purpose admirably. And so, having indicated our own preference, we leave readers to make their own selection.

Preparing Sections for Use.—Sections are sold in the flat, and usually made from bass-wood in one piece, the strip of wood forming the folding-box, or section, having three V-shaped grooves cut equi-distant across its width and nearly through the wood. Each end is tongued, as

Fig. 4.—One-piece Section.

in the cut (fig. 4), so that when the section is folded, as in fig. 5, it holds quite firmly. The section illustrated is that known as the four bee-way one, as distinguished from those with openings through which the bees pass on their top and bottom sides only, and called two bee-way sections. Although possessing some trifling disadvantages, we consider the four bee-way section best for general use, as it tends greatly to the building and sealing of the comb close to the wood all round, thereby making it travel better, saving "drip" or leakage, and giving it a nicer appearance in the eyes of a purchaser. If the sections are very dry when being folded, turn a bundle of them edge up, and pour a thin stream of hot water down each row of V-shaped grooves to wet the flexible folding joint, and so prevent its breaking.

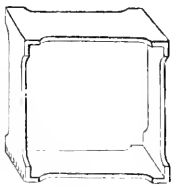


Fig. 5.

Comb Foundation for Sections.—For guiding bees in building straight combs, very thin foundation, made from a superior quality of beeswax, is used. Too much importance, however, is given to the colour of the wax used in making super foundation. Light-coloured wax is, of course, desirable for this purpose, but there is no need for its being *white*, as some think. Personally, we prefer using pale yellow foundation for comb honey, mainly because bees themselves like it better, nor can we see the slightest difference in the colour of the finished comb whether the one kind or the other is used. The point is to have it made as thin as possible, and from pure beeswax only. Several new methods of fixing foundation in sections have been devised since the using of full sheets has come into vogue. Formerly only a small triangular-shaped slip of foundation was used as a guide, but the grooved section, and that with a divided top bar, introduced a few years ago, have done much to popularise the full sheet of foundation as a means of securing more complete combs. Some bee-keepers, however, still use the triangular-

Fig. 6.

shaped guide and the simple little implement made from a bent spoon (fig. 6), in which the

wax is heated over a lamp and poured while hot along the edge of the foundation where it touches the wood, for fixing it to the top of the sections.

Many, again, prefer the wood roller and block introduced by Mr. Abbott (fig. 7). In this the foundation is fixed before the section is folded, the sheet or strip of wax being laid flat on the upper side of the section, and the

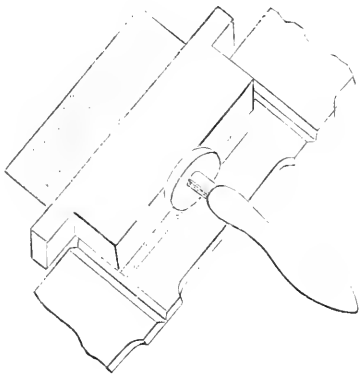


Fig. 7.

wooden guide-block placed in position, when the roller, held firmly in the hand, is run along the edge of the wax, using some pressure at the same time. The guide-block is then turned over on to the just-pressed edge of the wax sheet, and held there while the latter is raised to its position at right angles to the joining. If the wooden wheel is kept slightly damp, and the wood of the sections perfectly dry, this method of fixing is quite secure, while, with a little practice, it can be done very rapidly.

Then we have the ingenious plan of fixing foundation, perfected by Mr. Howard, in which the top bar is divided and the sides of the section grooved. The cut (fig. 8) illustrates the method of attaching the foundation to the bar,

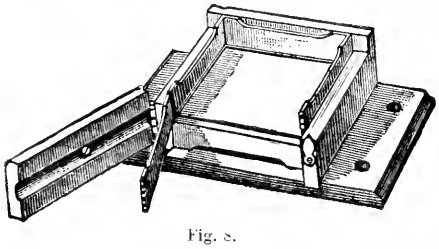


Fig. 8.

which is divided, as shown. When the section is folded it is placed in the block, the sheet of foundation being laid on the face of the wood, with its edge close to the split top-bar. By closing the jointed flap on the left the upper half of the top-bar is pressed home, and fastens the sheet firmly, and once fixed it cannot give way unless the wax breaks down. A section grooved on all sides has also been brought out expressly for using with full sheets of foundation. In this the section after folding, is placed—top-bar pointed upwards, as in fig. 9—in a block which holds it perfectly square; the sheet of foundation, cut to the exact size, is then slipped down the groove till it rests on the bottom, when the top-bar is folded down on to it. Finally, we have the old, and with many still preferred, method of fixing foundation by means of wax made very hot in the well-known smelter (fig. 10). No apiary is complete without one of these useful little implements, and another known as the "Carlin Cutter" (fig. 11), for cutting up sheets of foundation. After fitting up a lot of the grooved sections last mentioned, we just

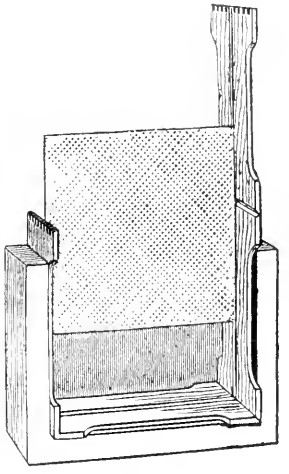


Fig. 9.

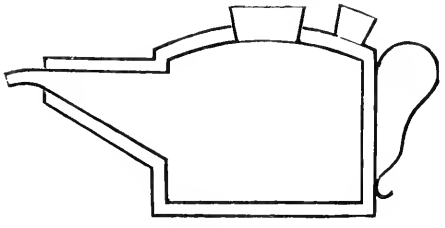


Fig. 10.

"tack" the foundation on its top side with melted wax from our smelter, to prevent any risk of a breakdown. Whenever uncertainty exists as to the stability of various methods of fixing foundation, a little hot wax will always make it *safe*, and those who find any difficulty in using full sheets, owing to their liability to bulge or sag, can always ensure freedom from risk in the triangular piece of foundation for a guide and the wax smelter for fixing it. If full or even half sheets of foundation are fixed in this way, a guide block—made by nailing a piece of ⅞-in. board, 3¾ in. square, on to a slip of light wood 6 in. by 3 in.—is used to hold the foundation in position while being attached. The section is slipped over the square piece on the block—the latter being held in one hand—the

Fig. 11.

foundation is then placed on the square, with its edge touching the wood of the section. While in this position, a little molten wax is poured from the smelter on to the junction, and allowed to run up and down by inclining the section to the necessary angle until the wax has cooled and set.

(Conclusion next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

MR. G. WELLS' ANNUAL REPORT.

THE "BIG WAX-CAKE."

[3943.] I was asking a friend if he had seen in B.J. of the 26th ult. (page 127) the report from our friend Mr. Wells, and his remark brought out the item of the very large cake of wax, which he thought "tremendous!" To this remark I only referred him to my cake of wax this season from three "Wells" hives, and only one single stock, viz., 32½ lb. I might mention I bought three stocks of bees last spring, and another stock brought me to treat and cleanse of foul brood, which certainly was very badly diseased, only about one healthy grub in the hundred. Of course, these old combs would have a little more wax when extracted.

I might say I was very careful about preserving every particle of wax, and the whole collected until the finish of the season, and then all pieces are then sorted, light and dark separate, and then thoroughly ground into small pieces like rough oatmeal, and then steeped in plenty of soft water to remove all pollen grains before starting to extract the wax. This process requires some damp and the water changing a few times; after this, the first lot of wax which comes through the extractor is thrown into clean soft water to cleanse it, and then placed on one side, after cooling, to go through the extractor a second time. The beeswax this season I sold to a chemist at 1s. 9d. per lb., and could have sold him much more if I could have supplied him. He also told me he would like to take yearly between 30 and 40 lb.

In reference to the "Wells Hive," the more I use them the better I like them, and consider mine quite safe to send miles away into the country without fear of swarming, providing you are working for extracted honey, and have plenty of frames to give room in advance. I might say I have made three during the past winter to be stocked this season. I have worked the "Wells" hive from the first season of 1893, both inland and at the moors. From that year up to the present season I have only had two "Wells" hives to swarm, and in both cases it really was on account of not having plenty of material to give room in time to avoid crowding.

Respecting the idea of one side of the "Wells" hive often becoming queenless, I have only had one case during the honey flow, and should such a thing take place during winter you do not lose your bees, but only the queen; providing there is plenty of room in the opposite side the bees will leave one side and occupy the other side with the surviving queen.

Regarding the perforated dummies becoming propolised, this I consider of no importance, because once the stocks are established and scented alike it does not matter. The dummy, of course, would require cleaning if the hive should become queenless in order to establish the empty side with a fresh swarm or stock. The various takings of extracted honey for each hive worked this season as under. I need hardly mention this town is not a bee-keeper's paradise, one bee-keeper working about ten stocks of bees for sections not many yards away from mine only had sixteen saleable sections from the lot.

	lb.	lb. Total.
No. 1. Single hive, ext. clover ...	8	46
" " " pressed heather	38	
No. 3. "Wells" hive, ext. clover ...	89	184½
" " " pressed heather	95½	
No. 5. "Wells" hive, ext. clover...	59½	97½
" " " pressed heather	38	
No. 13. "Wells" hive, ext. honey	92	184
" " " pressed heather	92	
No. 14. Single hive, ext. clover...	12½	50
" " " pressed heather	37½	

No. 5 "Wells" hive, one side worked with aged queen third season. No. 1 single hive treated for foul brood, bees covering three frames April 25, and the same day put into 1-in. starters, and transferred into full sheets on April 28, and fed on medicated syrup; queen not removed; hive washed out with corrosive sublimate, and painted, after washing and drying with carbolic acid and methylated spirits. Do you consider this effective? [Yes.—EDS.] Stocks not yet examined, too cold at nights.—J. T. HORN, *Bedale, Yorks, April* 9.

(Correspondence continued on page 146.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our "Homes" picture this week carries us across to the Channel Islands, and introduces us to another farmer, who is a bee-keeper. Mr. Crawford also, in answer to our request, sends so full an account of his bee-doings, that it needs no addition. He says:—

"I started bee-keeping in the spring of '95 with two swarms in frame-hives. Having previously read the 'Guide Book' through two

or three times, and from it gleaned much valuable information, I purchased the swarms, hives, and appliances from an appliance manufacturer here, who makes it a rule to help his customers with their bees for the first season or two. My first season was a good one, although at the time I did not think so, as, like most beginners, I expected to get seventy or eighty pounds of honey from each hive. The following year I increased by artificial swarming to five colonies, and the season of '96 was also a good one, being, I think, my best.

"The first time I did any honey extracting without assistance matters went very badly; and as my experience may perhaps be helpful to beginners, I give it as follows:—Unfortunately, I chose a day following several wet ones for the work, consequently the bees were not in the best of tempers. However, I managed to extract about eighteen pounds of honey from one hive; how, I do not exactly know, for the bees soon began stinging every living thing near, including the servants, a large dog, and our horse! You may depend upon it, I did not interfere with any more hives that day, but cleared out of the garden as quickly as possible. I have had, as a rule, very few stings, but when stung swell up very much; and once I remember my whole body turned red from the effect of a single sting.

"All my hives (since I got the first two), frames, and some appliances I now make myself during the winter. The frames of brood-chambers are of standard size, while those of surplus-chambers are the usual shallow-frame 5½ in. deep, the various parts being all interchangeable. I find this a great convenience, especially when making artificial swarms, &c. I lost four colonies in the spring of '99 through dysentery. A fifth stock was attacked with the same disease at the end of March, and on examination I found it only contained about half a pint of bees, but as the queen seemed in good health, I, as an experiment, gave them a frame of brood with the bees adhering to it from another hive, and it was astonishing to see the progress that stock made later on; it gave me a good return of honey and was in very fair condition for wintering. I have had various other losses, among them one of about eighty empty store-combs destroyed by wax-moth. These, however, are not total losses, as I consider the experience gained compensates to a great extent for them.

MR. A. W. CRAWFORD'S APIARY, MANPERTIUS, ST. CLEMENT'S, JERSEY.

"In December, '97, I moved my nine hives to our present farm, a distance of two and a half miles. The journey was accomplished without mishap of any kind, as I took good care to fasten the body-boxes securely to the floor-boards and to close the entrances well with wire gauze so that the bees travelled well and safely.

"I remember once having a hive thrown completely over by the wind. Luckily, however

the supers and hive-body had not come apart, so it was righted with very little trouble. The bees did not seem any the worse, for that colony gave me 56 lb. of honey the same season, which is my largest 'take.' I have never to my knowledge had a swarm from any of my hives, mainly, I suppose, because the bees always have plenty of room.

"We have no B.K.A. here, there not being sufficient bee-keepers in the island to form one. I have often wondered if we could not become members of the Hampshire B.K.A.? Jersey is in the diocese of Winchester, and therefore is, to some extent, connected with Hampshire.

"We are pretty free of 'foul brood' over here, although very slight traces of it are occasionally found in some parts of the island.

"I consider bee-keeping pays, if the bee-keeper thoroughly understands his bees, commences with, say not more than two or three hives, and increases as he gains knowledge, makes the most of his chances, does not run into needless expense, and is also persevering and makes his own hives.

"I should recommend the 'Guide Book' to all about to start bee-keeping, as it is written in plain language, is very reliable, and does not speak of fortunes to be made by bees, but says that bee-keeping can be made profitable if its teaching is fully carried out."

CORRESPONDENCE.

(*Continued from page* 144.)

BEES AND FRUIT GROWERS.

THE FERTILISATION OF FRUIT BLOSSOMS.

[3944.] For many years, both by voice and pen, in lectures to which the public were admitted, and in quiet conversation with single individuals, I have steadfastly advocated the great importance of bee-keeping in connection with fruit culture, believing firmly that incalculable results follow from the efficient fertilisation of the blossoms by *Apis mellifica*. During the last decade I resided for several years in Kent, the "Garden of England," and it was often with a feeling of sincere regret that I observed, when driving in that charming county, plantation after plantation of fruit trees, amounting in the aggregate to thousands of acres, without a skep or frame-hive of bees to be seen. It is a well-known fact that strawberries, gooseberries, black, red, and white currants, raspberries, cherries, damsons, plums, apples, and pears are grown on a larger scale in Kent than in any other county in England, chiefly for the markets and requirements of London, Birmingham, Liverpool, Manchester, and other large towns. And, from my own experience in Kent and also in Sussex, I have not the slightest doubt whatever that a few hives of bees located in every orchard or plantation would be the cause of a considerable increase in the fruit crop generally, as compared with fruit gardens where bees were not kept. As I have neither bees nor bee-keepers' appliances to sell, I have no "axe to grind," but the present time is most favourable for any fruit growers who may chance to read these lines to give the experiment a fair trial. Stocks of bees, both in skeps and in frame-hives, will be found for sale in the advertisement columns of the B B.J. just now at reasonable prices, and, if fruit producers will only give bee-keeping a fair and impartial trial the issue cannot fail to be highly satisfactory to all concerned. If further arguments were needed, the following extracts, taken from a recent number of the Antipodean newspaper, the *Australasian*, will, I think, convince the most sceptical on the subject:—

"An example of the value of bees in fertilising the blossoms of fruit trees is related by Mr. F. E. Morrell, in 'American Gardening.' This gentleman had a large cherry orchard, but for eight years he did not get a cherry. He was about to grub the trees up, but a friend advised him to try what bees would do. The bees were procured, and they did the necessary fertilisation. In three years after the crop of cherries was sold for four thousand dollars! In our Victorian orchards there is generally an abundance of insect life, bees, flies, &c., which assist in fertilising the flowers, but it is likely that in many cases better crops would be assured if the honey bee was more plentiful. It is necessary for the bees to have the pollen to feed their larvæ, and in going from flower to flower to gather it they fertilise the blossoms, and the result is an abundance of fruit.

"Sometimes bees are blamed for injuring the fruit when ripe, and in hot, dry spells they will often turn their attention to over-ripe or unsound grapes, peaches, and many other fruits, but they are seldom the first to make the attack; they generally follow the punctures made by birds, and simply feed upon that which otherwise would be lost. Careful observations prove that bees seldom, if ever, interfere with good, sound fruit."

It will be noticed that I have not dealt with the yield of honey, wax, swarms, and stocks, which in the course of a few years would be, doubtless, considerable, and, apart from the advantages previously enumerated, well worthy of attention and serious consideration.—J. EDMUND RODEN, *Quatford, Bridgnorth, Shropshire, Salop.*

MY HONEY HARVEST FOR 1899.

[3945.] I enclose an account of my last years "take" of honey in case it may be of interest to readers of the B.B.J.

I had seventeen hives at work during the honey gathering season, five of which were stocked with swarms of the current year; in two cases double swarms were put in single hives. The highest weight taken from a single hive was 195¾ lb., the next best yielding 185 lb. Of the others, six gave me from 100 lb. to 127½ lb., and five from 72 lb.

to 80¾ lb. The remaining four 26 lb. to 57½ lb. The total weight from the seventeen colonies was 1,636¾ lb.; the whole of which was sold at 6d. per lb. to a firm in Lincolnshire. I was told they could buy all the honey they wanted at that figure.

I had a Solar wax-extractor made by my carpenter two years ago, and I find it simply invaluable for melting old combs or cappings. It saves no end of time and trouble.—C. D. G., *Soham, Cambs.*

MY FIRST YEAR OF BEE-KEEPING.

[3946.] Just twelve months ago I began bee-keeping, and thanks to Mr. Cowan's "Guide" and your useful journal, I think I have been fairly successful, and am so indebted to you that I feel I ought to express my gratitude for your having enabled me to take such a lively interest in bees by telling you shortly how I have got on.

A year ago I purchased two "very home-made" hives. I had three swarms from them, and then united the two old stocks as they were somewhat weak. It was the last Sunday of May when the first swarm appeared, and I was upstairs in bed with the "flu." When I heard they were out, however, I could not resist going out, and hived them successfully. This was my first attempt at handling bees. The next day the second swarm came out. Later on one of the new swarms proved so spiteful that after the honey-harvest was over I destroyed them. I made this up by going over to a neighbour who had some skeps and drove one for him, he giving me the bees, which are now doing well; so I have four stocks now going strong, but these wretched cold winds keep everything very backward. I took over 200 lb. surplus honey, extracted and sections, and found a fairly good market, realising nearly £7 and having plenty left for my own use.

I have made all my own hives, adhering as closely as possible to Mr. Cowan's specification in his "Guide Book," and find them answer well. I think I have made as good a start as most beginners.—FRANCIS C. CLARK, *Bishop's Waltham, April 7.*

AN AFTERNOON WITH "THE BEES."

REMOVING UNDESIRABLE TENANTS.

[3947.] A gentleman, who recently hired a house in an adjoining village, upon taking possession, found that part of the house was already occupied by bees, and he was informed that these winged tenants had been "in occupation" for over a dozen years. A friend, whom I will call "Mr. A.," was asked to remove the bees and he kindly invited me to accompany him. On making a preliminary examination, Mr. A. found that the bees entered the house through a hole in an oak beam, between the ceiling of the dairy and the floor of a lumber room, and with a long instrument of the gimlet species he was able to bore through the floor and locate the nest. A few days afterwards, Mr. A., taking with him a good assortment of tools, attended to tackle the bees. The day was a damp one, but it was the one which had been arranged. Mr. A. is a capital carpenter, and soon had a board up, but then found a good old oaken floor underneath at right angles to the upper boards. Several more of the latter were therefore removed, and one end of the oak boards was thus reached. A hole was next bored on the opposite side of the bees, a fine saw inserted, and two boards sawn through. One board was then gradually raised, a carbolic cloth drawn underneath until the bees were reached, and the board was then lifted up, with a piece of comb and bees attached to it, and placed on the far side of the room, a skep being put over the bees and comb.

A second board had afterwards to be raised. There were no less than twelve combs built between two rafters, the latter being about 11 in. apart, and the depth available about 6 in. We found but little honey and not much brood, but the latter was healthy. The combs were so straight that Mr. A. was able to take out ten of the twelve, tie them in frames, and put them in two swarm-boxes, each constructed to hold five frames. In the meantime the bees first removed had run up into the skep, and they were thrown down and run into one of the swarm-boxes. Some bees remained after the combs had been removed, and most of them took possession of combs placed near them, and were then also run into the swarm-boxes. The room was rather dark, and the queen was not seen in the course of the operations, so a light was procured, and diligent search made to see if she could be found, if left behind, but without result. The bees were then handed out through the window, a sulphur candle lighted and placed in a dish, and the room closed. The bees were very well behaved, both Mr. A. and myself being "touched up," though only twice, while I should confess that I kept my veil on throughout.

Our hostess provided us and two friends—one who had driven Mr. A. over and one who dropped in to see the end of the "fun"—with a capital tea, after which the lumber-room window was opened from the outside, and we left after Mr. A. had been most cordially thanked by our host, who would not allow him to bother about putting down boards, blocking up bee entrance, &c., being himself well able to attend to that part.

Mr. A. most kindly bestowed the bees and combs upon me that they might afford me a useful lesson. The next morning, after giving them a slight sprinkling of flour, I placed them in an ordinary frame-hive and put a feeder on. I expect that the attention they will require will prove interesting. They

seem contented, so I trust the queen is with them, but at present I am not sufficiently in love with manipulating transferred combs to look for her. What puzzled me was the excellent condition of the comb and the comparatively small quantity of it, considering the time the bees were said to have been located in the house and the ample room there was for extension.—"WEYSIDE," *Surrey, April 9*, 1900.

THE TRADE AND BEE ASSOCIATIONS.

[3948.] On looking over our report for last year, I was surprised at the conspicuous absence of the trade as members. Thinking this was an oversight, I spoke to the Secretary, who informed me the excuse made was competition was so keen they could not afford a paltry 5s. per annum.

Surely, when associations are kept up mainly by private members at no profit to themselves, it is not too much to ask, or, rather, to expect, the trade to help, especially when they benefit so largely, for without private beekeepers where would they be? I hope, however, this is an isolated case and that it will be found the trade generally *do* respond. Being disgusted at the above excuse, my spring order, which had been made out to a firm trading in my own county, has been placed elsewhere, and a wide berth will be given them in future.—A PATRONISER OF BOTH, *Brentford, April.*

WEATHER REPORT.

WESTBOURNE, SUSSEX.

MARCH, 1900.

Rainfall, ·81 in.	Sunless Days, 8.
Heaviest fall, ·30 in., on 18th.	Below average, 66·3 hours.
Rain fell on 10 days.	Mean Maximum, 42·8°.
Below average, 1·19in.	Mean Minimum, 31·7°.
Maximum Temperature, 54°, on 12th.	Mean Temperature, 37·2°.
Minimum Temperature, 20°, on 18th.	Below average, 4·1°.
Minimum on Grass, 12°, on 18th.	Maximum Barometer, 30·75°, on 13th.
Frosty Nights, 16.	Minimum Barometer, 29·16°, on 19th.
Sunshine, 101·7 hrs.	
Brightest Day, 12th, 9·5 hours.	

L. B. BIRKETT.

Queries and Replies.

[2364.] *Rearing Bees by Artificial Warmth.*—Supposing that a nucleus is made by putting two or three frames of brood in a small hive prepared for the purpose—the brood being all capped over, some of it hatching out—and with stores sufficient to last hatching brood, &c., for some time; also that the hive is kept warm artificially, I would ask the following questions:—1. If a queen with her attendant bees are received per parcel post and introduced to the above described hive, would the bees accompanying the queen attend to brood as it hatched out? 2. Would the queen commence to lay in empty cells as vacated by the hatching brood? 3. Would the young bees when a few days old commence the ordinary work of the hive? 4. Would it be necessary to cover entrance of hive with perforated zinc for a few days to prevent robbing, &c.? Replies to the above queries will much oblige.—CEREMONIAL, *Cromer.*

REPLY.—1. Young bees, if strong and healthy, need no attention on the part of their elders after hatching out. 2. A prolific queen will—under normal conditions—begin to lay when there are sufficient bees to cover the eggs deposited. 3. No doubt the young bees would fulfil their usual office of tending the larvæ in the capacity of nurses so soon as work of this kind was to be done. 4. Confining bees in nuclei to prevent "robbing" is, as a general rule, worse than useless. Having answered our correspondent's questions seriatim, we are constrained to add that in our opinion any attempt to work a bee-hive on the "incubator system" will fail. The humid warmth of a cluster of living bees which constitutes the brood-nest is not easily produced by artificial means, and we should therefore predict failure for any attempt to imitate it as proposed.

[2365.] *Using Combs Containing Chilled Brood of Last Season.*—As there is no one near by who can give me any information, may I ask you to say in B.B.J.:—1. Is it dangerous to put back combs in the hive that contain chilled brood, of last year? 2. Is it of any benefit to stimulate with syrup if there is plenty of honey-cells in the hive to uncap?—TOM NICHOLLS, *Neath.*

REPLY.—1. We should certainly not give to bees combs the cells of which contain dead and decomposing brood, but rather burn them. 2. If you will take the trouble to uncap a few cells about twice a week, there is no need to give syrup for stimulating purposes.

[2366.] *Ventilation Holes in Floor-Boards.*—In all my hives there is a 3-in. hole in the centre of the floor-board, covered with perforated zinc for ventilation. Would you kindly advise me whether this is beneficial to the bees or not, as I am making new hives and wish to have them correct?—J. H. JENKINSON, *Rotherham, April 2.*

REPLY.—Although a small minority of experienced bee-keepers maintain that ventilation, provided as above, is beneficial in winter, we are not of the number, believing that there are other and more advantageous methods of securing the end in view than a cold draught constantly blowing from below as well as the

entrance way into the hive. Ventilation is useful in its way and at the proper time, but we should advise an immediate stoppage of the "3-in. hole" just at the present time in floor-boards, and the adding on of as many warm coverings overhead as convenient in order to conserve the warmth of hive interiors as much as possible.

[2367.] *Foul Brood and Driven Bees.*—I shall be obliged if you will be good enough to give me your valued opinion on the following case :—Last autumn I had several lots of driven bees, from which I made up stocks in frame-hives, uniting two and, in some cases, three lots to form each colony. Being rather late in the year—viz., the end of September—I gave the drawn-out combs, partly filled with brood, and stores taken from other hives. Before covering down for the winter I saw that all had ample stores, making up deficiencies by inserting full frames of food. On opening the hives yesterday I was disappointed to find two of them completely empty of bees, although there were several pounds of sealed stores in the hives untouched. 1. I am at a loss to understand why the hives are deserted, and will be glad if you can afford an explanation. 2. Upon examining the combs I became anxious, fearing foul blood. I therefore enclose a sample to await your verdict. In one of the deserted hives I found a frame of comb which puzzled me. It was particularly well filled with heather honey (inserted last autumn, as previously stated). One side of this comb, especially the lower half, was quite wet and slightly sticky, while the cappings were practically unbroken. The opposite side was as dry and clean as possible, as were all other parts of the hive. 3. Can you account for this?—C. R. W., *Bournemouth, April* 3.

REPLY.—1 and 2. If all brood-combs left in the hive are like sample sent, we should judge that the bees have deserted the hives because of the brood all dying of disease. The small piece of comb was entirely occupied with dead larvæ and disclosed a bad case of foul brood, not a single larva having hatched out. 3. It is not uncommon to find what are termed "weeping" combs in hives in which the bees have perished.

[2368.] *Forming Nuclei.*—I have a stock of Ligurian bees from which I should like to raise two or three queens, and as the best queens are raised under the swarming impulse, while I do not want any swarms, I am induced to ask if you think the following plan would be successful : Stimulate the stock till it is near to swarming point ; then remove from the hive six frames of brood with queen cells, and from these make three nuclei of two combs each, at same time giving a comb of honey to each nucleus from other hives, the remaining combs, with queen and bees, being left in the parent colony after cutting out all remaining queen-cells ; then fill up the hive with frames of foundation. 1. As all flying bees would, of course, return to the old stock, do you think there would be any desire left on the part of the bees for swarming? 2. Could the stock be again brought into condition for the heather? —"HAWTHORN," *Keighley, Yorks, April* 3.

REPLY.—1. It is not quite safe to say that all desire on the part of the bees to swarm would be given up for the year ; but the chances are largely in favour of no swarm coming off. 2. If the Ligurian queen is a prolific one there should be no difficulty in getting the stock strong again in time for the heather.

Echoes from the Hives.

Soham, Cambs, April, 1900.—I examined five of my hives on March 11 and found them fairly strong ; some had brood on four frames, others in two, and a fair amount of stores in all. Since then the weather has been so cold that I did not care to examine further, but hope to do so now it is warmer.—G. D. G.

Cardinham, Cornwall, April 2.—I am pleased to say bees have wintered well with me. I went into winter with sixty-one stocks. One I found to be queenless, another (in a "Wells" hive) united of themselves by some means ; so that I have fifty-nine stocks at present at my home apiary. Of these I find some with eight and nine seams of bees, and brood raising going on well. Beyond this, and seeing that the bees have plenty of natural food, I leave the hives quite undisturbed during winter and early spring. I use no other than natural food, keeping a number of frames over winter full of sealed honey for any hive that needs it.—E. W. CARBINES.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. M. (Cornwall)—1. *Foul Brood.*—Comb sent is badly affected with foul brood of virulent type. 2. *Renewing Combs.*—This should be done gradually in the spring of the year, at which time the frames are usually examined, and any found faulty—either from age or any other cause—are marked for removal or renewing. Later on, as weather becomes mild and the brood-nest enlarges, until the cluster extends to about five full seams of bees, one of the marked frames is removed and, after parting the combs of brood-nest to make room, a frame fitted with full sheet of comb-foundation is inserted in the space provided. Cover all down warmly, and a week later the operation may be repeated. About three new combs thus built in each year will keep all

frames in good workable condition by constantly replacing all combs that need renewal from various faults.

E. R. T. COOKE (Manchester).—"*Swarm-Catchers.*"—1. We know of no plan by which an empty hive can be converted into a "swarm-catcher."

S. G. (Glos.).—*Carniolan Queens.*—1. The Carniolan queen-breeder, whose address we promised, is M. Ambrozic, Moistrana, Oberkrain, Austria.

(Several interesting letters are in type and will appear next week.)

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

GOOD CAMBRIDGESHIRE SECTIONS, 6s. dozen. LING, Shady Camp, Linton, Cambs. 838

SEVEN SKEPS FOR SALE, 13s. each, or the lot, £4. STUBBS, College, Ely, Cambs.

FOR SALE, eight STOCKS BEES in straw hives. Last year's swarms. WHITTING, Manea. 829

OVERSTOCKED. — Sixteen SKEPS of BEES FOR SALE, or Exchange. TOWNSEND, Coneysthorpe, Malton. 837

180 LB. finest CLOVER HONEY. Offers requested. APIARIST, Fairspeir, Ascott-Wychwood, Oxford. 836

33 14-oz. BOTTLES RUN HONEY, 19s. Carriage paid. Sample 7d. E. PARSONS, Ashurst-place, Langton, Tunbridge Wells.

FRENCH BEE-KEEPER desires to Exchange Postage Stamps for Collection with British Colonial Bee-keeper. VALLET, 71, Rue Condamine, Paris.

24TH YEAR.—Reliable STOCKS, with 1899 Queens, on six wired frames, 18s.; eight frames, 20s. ALSFORD, Expert, Blandford. 834

24TH YEAR.—Early natural SWARMS at my usual prices, 10s. 6d., 12s. 6d., 15s. Cases free, and safe delivery. ALSFORD, Expert, Blandford. 835

STOCKS of BEES, in Skeps, FOR SALE, 10s. 6d. each. Also Sainfoin Honey in 30-lb. tins, at 6d. lb. E. LONG, Fulbourne, Cambs. 840

STRONG healthy STOCKS in skeps, '99 Queens, 12s. 6d. Swarms later. WOODS, Normandy, Guildford. 831

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 828

FOR SALE, ten HIVES of BEES, 12s. each. No reasonable offer refused. J. BRUCE, Broad-street, Ely, Cambs. 827

BUYER of BEESWAX (wholesale) invites quotations and samples of large or small quantities. Deposit. RODEN, Grocer, Quatford, Bridgnorth. 822

FIVE guaranteed healthy STOCKS in Standard hives, 20s. each. LADY'S CYCLE, in good condition, £4. Particulars from CYCLIST, 155, Fulham-road, London. 826

SECTIONS (280) WHITE CLOVER HONEY, grand quality and condition, 7s. 6d. per doz.; glazed, 9s. 6d. Deposit. TROLLOPE, 67, Horningsham, Warminster, Wilts. 825

ITALIAN '99 QUEENS; first cross; good tempered; good honey gatherers; guaranteed free from foul brood. Strong ten-frame Stocks, £1 each. O. KNIGHT, Epney, near Stonehouse, Glos. 824

RIDGE-WHITWORTH SAFETY BICYCLE with Lucas Lamp, Bell, &c. Bought September 16th last. Cash price, £7 15s. CARTER, Home Cottage, Burnt Oak, Edgware, Middlesex. 823

THROUGH DEATH of OWNER. Mrs. J. W. Avery, Ripley, Surrey, has for DISPOSAL about 18 strong STOCKS of BEES in skeps, guaranteed healthy, price 10s. each; three for 27s.; packages free.

THREE healthy STOCKS of BEES in nearly new frame hives, with 1899 queens, 25s. each, or £3 10s. the lot. L. HARRISON, Aldwick House, Bognor, Sussex. 819

Prepaid Advertisements (*Continued*).

TANNED GARDEN NETTING—25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Only best quality supplied. L. WREN & SON, 139, High-street, Lowestoft. 818

FOR SALE, best offer, seven STOCKS of healthy BEES in good frame-hives, four empty Frame Hives, Honey Extractor, Supers and worked-out frames of Comb, and lot of sundries; equal to new; leaving district. A. TEMPLE, Aslackton, Notts. 820

FOR SALE, slightly soiled, two "Cowan" Extractors, 42s. 6d. each. Also a few smaller Extractors, geared and ungeared. Wax Extractors and Honey Ripeners cheap. R. H. COLTMAN, Bee Appliance Maker, Burton-on-Trent. 841

FOR SALE, ten strong healthy STOCKS of BEES in frame hives, 25s. each complete. Also three in skeps, 10s. each; packed and on rail free. LEGHORN INCUBATOR in good condition, nearly new, would EXCHANGE for HOUDAN PULLETS, or cash £1. E. HARDY, Oak House, Great Yeldham, Essex. 839

SURPLUS STOCK. — PARTRIDGE WYANDOTTE COCK, prize winner, and two hens, 15s.; Exchange good HONEY EXTRACTOR. Eggs, above breed, 3s. 6d. doz. Two good STOCKS of BEES on frames. What offers? Exchange SHALLOW-BODIES with frames. BLACKETT, Ravenstonedale, Westmorland. 830

CHEAPEST BARGAIN EVER OFFERED. — Two strong healthy STOCKS in clean hives, standard frames, zinc roofs, 1ss. each; splendid 1-lb. HEATHER SECTIONS, 10s. doz.; two doz. bottles of good HEATHER HONEY, 18s.; or EXCHANGE BEE APPLIANCES. BOYES, Ryegate, Helmsley. 821

QUEENS FOR SALE, reared 1899. Address, GAMBRILL, Tailor, Bagshot-road, Ascot, Berks. 809

JOINERS WANTED, used to bee-hive making.—E. H TAYLOR, Welwyn, Herts.

FEW grand STOCKS of BEES, guaranteed healthy strong carpenter-made hives, 35s. each. CLEVELAND, Margate. 815

SEVENTEEN healthy, well-provisioned SKEPS of BEES FOR SALE. TOWNSEND, Coneysthorpe, Malton. 814

1,000 LB. HONEY FOR SALE, cheap. 40 lb. sent on approval. Apply, JOHNSON'S APIARY, Soham, Cambs. 812

WANTED, HEATHER HONEY-PRESS. State condition and price, SAMWAYS, Maesybont, Llandebie, R.S.O. 811

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. SIMMINS, Heathfield, Sussex, F.N.

TO CLEAR.—No reasonable offer refused. Twenty healthy STOCKS of BEES in skeps. Mostly last year's swarms. J. BOWES, Appleton-le-Street, Malton, Yorks. 794

FOR SALE, seven STOCKS; one on Standard Frames, one on my "W.B.C.," and five skeps. Foul brood unknown. TILDESLEY, Links Apiary, Glascote, Tamworth. 803

SIX good STOCKS of BEES FOR SALE, together or separately, some may be had in temporary hives which may be returned; a well-stocked "Wells" Hive and two Skeps included if desired. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

FOR SALE, entire APIARY, containing 16 standard frame hives (including 13 stocks of healthy bees), supers, wax extractor and two-frame cylinder extractor, section crates, extracting supers, and every convenience for modern bee-keeping. Cash price £13. E. FRED. GOODING, Witnesham, Ipswich. 817

WOODLEY'S PREMIER HONEY. Selected White Clover, glazed in lace, 9s. per doz.; fine quality well-filled Sections, glazed in lace, 8s. per doz.; good Extracted Honey, screw-cap jars, 8s. 6d.; good Extracted Honey, tie-over jars, 8s. Carefully packed, cases free. W. WOODLEY, Bee Farmer, Beedon, Newbury.

SWARMING SEASON, 1900. — Healthy Natural Swarms of Woodley's selected strain of English Bees, 10s. 6d., 12s. 6d., and 15s.; headed with 1899 queens. Boxes and packing free. Safe delivery guaranteed. Orders in rotation. W. WOODLEY, Bee Farmer, Beedon, Newbury. Telegrams: "Woodleigh, Chieveley." Free delivery.

Editorial, Notices, &c.

THE "ROYAL" SHOW AT YORK.

In view of the near approach to the date of closing entries for the Royal Show to be held at York on June 18 to 22, we remind readers that Tuesday, May 1, is the last day for receiving entries, except at extra fees. Schedules of prizes and entry forms are now ready, and may be had from Mr. Edwin H. Young, Secretary, B.B.K.A., 12, Hanover-square, London.

It must also be remembered that entry fees for honey exhibits are returnable if the season is backward and the honey intended for staging is not available at the date of show. There are classes for light, medium, and dark coloured honeys, also for honey of previous years, both granulated and in liquid forms.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of March, 1900, was £2,588.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

USEFUL HINTS.

WEATHER.—Fortunately for all of us who are bee-keepers, we do not often get the proverbial "March winds" in mid-April; this is, however, just what has been experienced for the past few days. Not that there is much to complain of in this, bearing in mind how usual it is to see the inevitable equinoctial gales speedily followed by genial warmth and sunshine. That it may be so in the present month seems likely enough, judging by the change for the better in the weather at time of writing, and for a continuance of which our readers will, with good reason, devoutly wish, for so generally backward a spring as that of 1900 is seldom recorded; and, as a natural consequence, bees have yet hardly begun what may be called working in earnest.

The few "Hints" on page 111 were advisedly left incomplete, because of our expecting, at the time, to see a speedy change for the better in the weather. Had this expectation been fulfilled urgent bee-work would have required attention without delay; as it turned out, however, the intervening time has been uniformly dull, cold, and cheerless, keeping bees indoors and stopping progress, so far as regards all vegetation. The advice given on this subject nearly a month ago applies with even greater force to-day.

First in importance is the necessity for giving immediate attention to the feeding of all stocks not known to be well provided with stores. Sugar-syrup now takes the place of candy, and must be given regularly till natural food is obtainable outside. Beyond this—and taking precautions against "robbing"—the slight examination recommended on page 111 will have sufficed; but, where spring work has been deferred it is now time to think about clearing away all dead bees and debris of various kinds that usually accumulate on floorboards during the winter months. When, therefore, settled warm weather is fairly ensured, and bees are daily working well, a full overhaul of every hive should be made with the object of selecting and noting the most promising colonies for the coming season, as well as those least so, and making arrangements for dealing with them respectively to the best advantage.

Marketing Honey.—This much disputed point has been prominent of late, not only in our pages, but in the columns of the newspaper Press, and, as may be supposed, widely divergent views have been expressed with regard to the saleableness, or otherwise, of bee produce. It will, however, be admitted that failures to sell good British honey do not, as a rule, occur with those who are regular readers of current bee-literature, but among bee-keepers who are either inexperienced, or else lack the business capacity which has so much to do with creating a market.

In fact, the question seems in a great measure to resolve itself into the one point of "business aptitude" on the part of the bee-keeper. Without this, difficulties too numerous to mention are sure to arise, so that it does not entirely depend on any single point, even on those so important as quality, tastefulness in preparing for sale, or grading, or even safe packing, but a combination of the whole, which goes to make up the "aptitude" of a completely successful bee-keeper. This is an aspect of the case which no one who has studied the

question without prejudice will fail to appreciate.

That some few persons have declared themselves unable to find a market for their bee-produce cannot be denied, but to admit this much is no argument against the well established fact that the great majority of our readers hold directly opposite views. Ample proof of this may be found in the reports of correspondents in nearly every issue of the BEE JOURNAL. How frequently is the statement made in these pages that no difficulty is found in selling good British honey at a satisfactory price, and when statements to the contrary occasionally crop up, how instructive it is to seek out the cause of failure at such times. A recent instance of this kind may serve to illustrate our argument, and will, we hope, justify our contention with regard to honey selling. It comes in the shape of a press-cutting sent by a Devonshire bee-keeper, who apparently sees it in a different light to ourselves. It is addressed to the Editor of the *Western Mercury*, and reads as follows :—

SIR,—I protest against the misleading report of the Cornwall Bee-Keepers' Association quoted in to-day's *Western Daily Mercury*. That Miss Gayton, of Herts, actually got 1s. per lb. for her honey we need not question, but that she got that price in the open market any time during the last ten years I don't believe for a moment.

Here is a fact as to the present prices. Last summer I sent a sample of magnificent honey to a wholesale chemist in Devonshire offering it at £2 16s. per cwt. (6d. per lb.). The answer was that the honey was very good, but that the price was far too high, and he underlined the word "far." I still have hundredweights on hand. I don't say that bees can't pay, but I do say it is cruel to hold out such false hopes to needy people. This might read like an advertisement if I gave my name, so I sign myself—"BUZZ," *Saltash, March* 26, 1900.

Without knowing what position "Buzz" holds as a bee-keeper, we must be pardoned for saying that he is decidedly out of his element as a honey-seller, inasmuch as he completely fails to grasp the situation with which he attempts to deal in his letter. Regarding the reference to Miss Gayton's success in marketing honey, we need only say it has, to our knowledge, been continuous for nearly twenty years. But apart from this, we ask how many producers of British honey would ever dream of selecting a "wholesale chemist" as a middleman in seeking a market for his produce? Why, the very name of "wholesale chemist" suggests foreign honey, and foreign honey only, for it is a well-known fact that a wholesale chemist practically deals with no other honey than that imported into this country and dealt with by the produce broker or commission house.

On the other hand, we shall be within the mark in saying that not one chemist in a hundred sells honey across the counter for table use. Indeed, it may be taken for granted that honey so bought is intended for medicinal or curative purposes only, and for these the foreign product answers equally well with any other.

It therefore only remains for us to conclude with a word regarding the practical application of what appears above, and we do so by observing that to our mind a palpable "want" exists somewhere when a bee-keeper with British honey on hand which is described as "magnificent" fails to find a market for it at 6d. per lb. Nor is it difficult to account for failure when one reads of such attempts to sell as that recorded by "Buzz" in the letter quoted.

COMB HONEY FOR MARKET.

(*Concluded from page* 144.)

Queen-Excluders below Sections.—The use of these is another moot point with bee-keepers, among whom we have always advocated their adoption when working for extracted honey, and now that we are in a measure compelled, by change of location, to do some sectioning, we find ourselves with excluders below all our surplus chambers, whether section-boxes or combs for extracting. In our own case the excluders are set close on to the top bars, with the length of the perforations, as usual, running across the spaces between the frames (for the reasons already given on p. 112), and once the bees pass through the excluders into the free space below and around the frames in which the sections hang in our new section box, there has been no hesitation in their taking full possession of the sections and starting work. We lay stress on the need for keeping sections as warm as possible in the early part of the season, using newspapers as coverings over the quilts above and around the sides of boxes, in addition to slips of paper between the junction of hive and section box, for the purpose of conserving the heat in the latter.

Various methods are adopted to induce bees to take possession of sections, one of the most successful being the insertion of a square of comb with honey in it—freshly gathered if possible—in one of the section boxes. The bees pass through into the upper chamber attracted by the odour of the honey, and (as the bee-keeper hopes) stay there. As to the most suitable or proper time for setting on sections, no date can be given. So much depends on the honey resources of the district—to say nothing of the preparedness or condition of the stock—that no guidance can go beyond saying that when the colony is strong and honey is being gathered freely, the edges of the combs will present a white appearance as if being lengthened out by the bees; surplus chambers should then at once be put on, and the precaution as to maintaining warmth, already indicated, carefully attended to.

Using Ready-combed Sections.—These are seldom satisfactory owing to the fact that they usually have a coarse, rough appearance when refilled by the bees with honey. Partly drawn-out sections of comb are, however, valuable for future use, and should be carefully preserved from moths and dust when removed from the hives at the close of the season.

Storifying.—While all agree that several racks or boxes of sections may be worked at one time on a hive, some difference of opinion exists as to whether the additional room in storifying should be given above or below the chamber already on the hive. Our own view is that the judgment of the bee-keeper and the circumstances at the time should guide him. It is very undesirable to have a lot of half-finished sections left on hand, but no rule of action can be laid down and not departed from when so much depends on the season, &c. For instance, we have some years given our first surplus room in the shape of boxes of ready-built shallow combs. These hold the slowly-gathered honey stored earlier on, and, when once the weather has become propitious, sections have been placed *over* the first boxes, which latter will remain on probably till the close of the season, as bees can do no harm by travelling over and soiling the surface of sealed combs intended for extracting. But in the event of fortune favouring us, we usually raise the section boxes when well forward and set a second lot over the extracting frames but *under* the first sections. The object is to get sections worked out and filled as rapidly as possible. Once finished, remove them from the hive without delay, and when indoors, keep them fresh and clean for market, by storing in a crate like fig. 12.

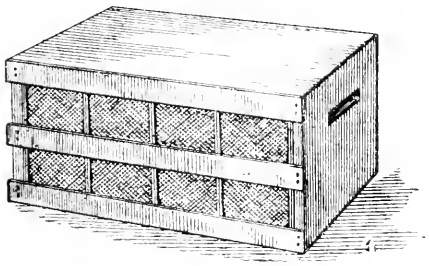


Fig. 12.—Storing-crate.

Grading Sections for Market.—Experienced honey-producers have long ago realised the importance of grading their sections into several qualities when marketing. The simple business rule observed in all trades applies here, and the best will command the highest price. Hence it is that he exercises his skill in getting as many of the best and as few of the worst as he can. Two or three poor sections will spoil a crate holding a couple of dozen, and tend to lower the price, though all the rest be good ones, so they should never be mixed. Besides, buyers soon know how to estimate the judgment of the producer, and once a man can be relied on for sorting his produce aright he has little difficulty in finding regular customers. Some bee-keepers have, unfortunately, almost no idea of the importance of fully considering these points, and the result is that many retailers will on no account buy comb-honey without seeing samples, or having some knowledge of the seller or of his method of preparing the product for market. It is perfectly certain that the trade in honey has been hitherto much hampered and limited in its scope in consequence of the poor fashion in which sections are prepared for the market; therefore, when we hear complaints of slow sales it should be borne in mind how much fault lies with the bee-keeper himself.

Section Cases.—Some laudable attempts have been made to introduce a case suitable for displaying sections of comb-honey in, while affording safe protection from dust and damage, and several of the articles so designed answer the purpose admirably. They have also removed a long-standing difficulty on our show-tables, and are recognised as a real boon at exhibitions, where nearly all sections are now staged either in tin or cardboard cases—glassed on both sides—which safely protect them from leakage and robber bees. Besides these there are cases of tin and of wood, made to fold over and protect sections in transit, each neat and efficient to a degree in themselves.

Many of our largest producers of comb-honey for market dispense with cases of any kind when preparing sections for market; using instead two squares of glass (4¼ by 4¼) as a protection for the comb surface. These glasses are attached to the wood on each side of the section by means of what is called paper-lace made for the purpose. The paper covers the whole surface of the wood, while the ornamental lace edging turns over the face of the glass and gives a very neat and tasteful appearance to the finishing section.

Yet none of these cases seem to be popular with some tradesmen selling section honey across the counter, especially florists and dairymen, who evidently consider that if the wood of the section be perfectly clean, free from propolis, and the combs sealed over with cappings of transparent purity and whiteness, no covering of any kind is needed to add to their attractiveness, but that it rather spoils a fresh section to cover it up with anything. Our experience goes to show that many of these prefer sections of honey in a crate as shown on preceding page.

We close this paper with the advice that all comb-honey producers should aim at an ideal section, which looks best just as it comes from the hive, but to add coverings or cases according to the requirements of their market and the needs of their customers.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[3949.] The Easter holiday has been of the proverbial kind, rough cold winds for four successive days having tried the bees very much; indeed, thousands have perished, beaten down with the wind. I have seen the bees, some heavy laden with pollen, others with water, and possibly a few with honey from the palms now in bloom in sheltered positions, struggling against adverse winds and falling, never to rise again. Such untoward weather as now prevails must deplete stocks very considerably and retard the continued growth of the colony which is necessary to enable the bees to take advantage of the early forage; but to be forewarned is to be forearmed, and we must give to all stocks special attention to counteract and overcome these losses.

Overhauling hives is a job still to be done when we get suitable weather. I have myself done nothing beyond taking a peep by rolling back a corner of the quilt and feeding where required; the hive-cleaning must wait. Stocks, I find, have used up more food than usual since the autumn; those marked on "register" as "good supply," I find, are running short, and will require help unless we get a speedy change for the better in the weather.

Bee-keeping in Berks.—The growth of the industry in Berks has been great during the past eight years. In 1891, when we took the first census, the number of bee-keepers in the Royal county was 728 and the number of hives 3,416. At our last census (1899) the number of bee-keepers had rather more than doubled, the numbers being 1,465 owning 7,257 hives. The produce of the hives in 1891 was 36,499 lb., and in 1899 133,683 lb. There are still a goodly number of straw skeps in use in the county, though the proportion is gradually getting less. At the first census straw skeps outnumbered frame-hives, but in 1899 they were considerably below the number of the latter. This shows that we are advancing, though perhaps slowly. In many instances straw skeps of bees are kept for fertilising the fruit blooms, and it often happens that the agricultural labourer of the old school would be unable to manage frame-hives with any profit to himself. As time passes, however, we may be able to teach the younger generation to adopt the frame-hive (that is, if we can induce him or them to stay in the country). The large quantity of honey produced in the county—nearly 60 tons—must surprise a great many people, and this may also account for the slow sale many bee-keepers have complained of. One bee-keeper recently told me that there did not seem to be much demand for honey *at any price*. The past year of 1899, being a good one for honey throughout the whole country, has provided a supply locally, and this, no doubt, has caused some orders from a distance to be of smaller dimensions than in previous years, when the local supplies were less.

Feeding should be attended to if the weather still continues cold, so that no check may occur in the brood-nest for want of sufficient food. A cake of soft candy or a bottle of syrup is the best form of food, except it be frames of honey, which may be given next the bee-nest, not between the brood-combs, or the outside patches of brood may possibly be chilled—W. WOODLEY, *Bredon, Newbury.*

(*Correspondence continued on page* 156.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Norman, sen., is another instance of a bee-keeper who took up the hobby late in life. We are glad to have included in our bee-garden pictures an apiary where the hives are located in an orchard, believing, as we do, that under certain conditions the shade thus afforded is advantageous to both bees and bee-keeper. Regarding the apiary seen we have been furnished with the following particulars:—

"The photo sent shows the apiary of Mr. Norman, sen., situated at Loders, near Bridport, Dorset.

"The hives, which contain over thirty colonies of bees, are located at the bottom of the orchard, and the trees, though somewhat in the way so far as a good photo goes, are not sufficiently close to interfere with the bees' line of flight. The river Asker, a small trout stream, runs within a few feet of the front of where the hives stand, thus affording the bees a plentiful supply of water.

"The apiary has developed into a sort of

joint-stock concern. Mr. Norman's son, who stands on the right of his father, being part owner and the maker of all the hives seen in the picture.

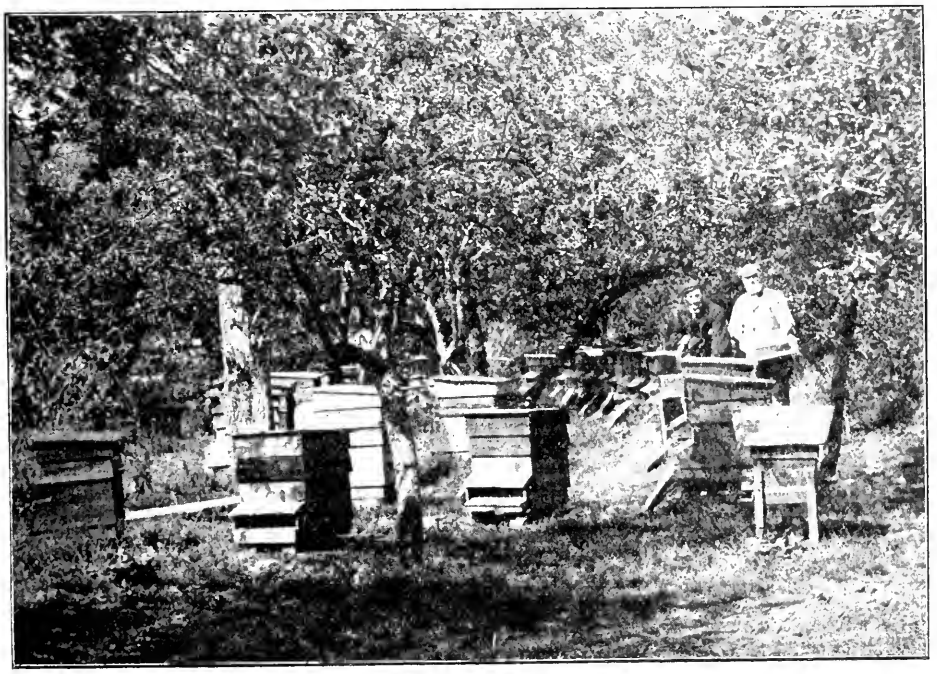
"So far as regards modern bee-keeping, Mr. Norman is a comparative beginner, as he only commenced to use frame-hives in 1896. The hives consist of a body-box with a loose brood-chamber fitted with ten broad-shouldered frames. As will be seen, the lifts are bevelled and the roof is somewhat similar to that of the "Cowan" hive. Some few of the stocks were transferred from straw skeps in '96 by putting the skep over the top bars of brood-chambers, the skeps being left until filled with honey, which was then removed as surplus; but most of the colonies were made up from driven bees rescued from the sulphur pit and fed up in the autumn.

"The village of Loders is prettily situated in a valley sheltered on the north and east by hills, and although there is no heather, the district is rich in honey-producing flowers, amongst which may be mentioned white clover, trifolium, sainfoin, birds' foot trefoil, beans, and some fruit trees. When the photo was taken most of the hives contained nearly filled surplus chambers, either sections, shallow frames, or those of standard size.

"Now, as to the honey market, it may be said that extracted honey and sections are generally ready for disposal by June 12, and sell fairly well locally. The honey gathered is of excellent colour and flavour, and when the main crop comes in it is disposed of in bulk as far as possible. As a rule, there is no great trouble in obtaining a market for it."

The above particulars were written some time ago by Mr. F. Croker (who is a bee-keeper and B.J. reader), a nephew of Mr. Norman, sen., and in response to our request for a line or two on the results of last season Mr. Norman, jun., who is referred to, says:—"Our harvest last year was not much over a half crop, but the quality was excellent and we had no difficulty in disposing of it. Our method of keeping stocks strong and healthy is to re-comb brood-chambers every four years. We also take every care in keeping the hives clean and dry, this being very conducive to good health in the bees. I am sure that many apiaries are troubled with foul brood more than they would be if proper precautions with regard to these points were taken. I am glad to say our stocks are now in good condition and have wintered well. But it is with much regret that I tell you of my father, who is seen in photo, having quite lost his sight since the photo was taken. He helped in the apiary so long as he could see, and took a great interest in our mutual hobby, the bees."

[We tender our sincere sympathy to Mr. Norman, sen., in his sad affliction.—EDS.]



MR. W. H. NORMAN, SEN.'S APIARY, LODERS, NEAR BRIDPORT, DORSET.

CORRESPONDENCE.

(*Continued from page* 154.)

CYPRIAN BEES:

ARE THEY BAD WINTERERS?

[3950.] I was much interested in reading the article by Mr. Dervishian on the above race of bees, which appeared in B.B.J. of March 15 (3927, p. 104).

Mr. Dervishian, in describing what he terms "their true character," paints their good qualities in such glowing colours that any novice in bee-keeping may be forgiven if he forthwith decides that the Cyprian must be *the perfect bee*, and immediately orders a Cyprian queen. Now, in giving my humble opinion as to the result of personal experience, I may say that Mr. Dervishian has omitted to state one most important and vital fact concerning these bees, viz., their wintering qualities when domiciled in England. Early in May, 1890, I imported a pure Cyprian queen and introduced her to a stock of English Blacks. She proved most prolific, and by the middle of August her progeny had well covered ten standard frames, and although the season of 1890 will be remembered as but a poor one for honey, I secured about forty 1-lb. sections in addition. The stock was kept from swarming, by always giving room and sufficient ventilation during the season in advance of requirements.

About the middle of August the bees appeared to consist so entirely of Cyprians that I was induced to exhibit them in the class for "foreign bees" at the Great Show, held at Shrewsbury on August 20 and 21, and a prize was awarded to them. This particular stock of Cyprians was extremely docile. They were also considered very handsome, having on the abdomen three distinct yellow bands, which seemed to give them a resemblance to the wasp. They also abstained from using much propolis, but where there are resinous trees such as firs and pines in quantity they will collect it freely and apply it with a vengeance. But I have known Cyprians owned by other bee-keepers that were a complete nuisance owing to their extreme irritability and viciousness. About the third week in September the Cyprians referred to were carefully prepared for wintering in an excellent "Cowan" hive, the air-space between outer-case and hive being filled with dry sawdust, carpeting and chaff cushions on top, with efficient ventilation, while avoiding draught.

In fact, the utmost care was taken to make them comfortable and snug for the winter. Quite forty pounds of *natural stores* were left in the nine frames which the bees then covered, and a good supply of fresh pollen from the blackberry and early ivy was noticed.

And with what result, so far as the way in which these bees can stand an English winter? On examination, after the first spell of cold weather not a Cyprian was to be found alive! Very little food had been consumed, so they had ample stores. The hive was dry, water-tight, and thoroughly sound, but there the bees were clustered in close array upon both sides of the combs and simply starved to death. They had no doubt succumbed to the cold of our northern climate.

That Cyprian bees will not endure the cold of our midland and northern winters I am fully convinced, and those who are devotees of the craft should know of the risk they run in this respect when buying queens. In Sussex and in Kent (where I have also kept bees), such veterans as Mr. Simmins may successfully winter Cyprians, but I fancy the average bee-keeper will find that the rigour of an English winter is too much for them.—J. Edmund Roden, *Quatford, Shropshire.*

[In the above communication we have, in common fairness, somewhat modified the rather sweeping condemnation of Cyprian bees by our correspondent as being bad winterers in this country. We do this for two reasons: first, because experience proves that it is not safe to form an opinion on a single failure; and second, the fact that of all the authorities who have recorded their experiences with Cyprians, not one we know of has alluded to the fault which our correspondent characterises as "important and vital." On the contrary, Mr. Simmins—who is referred to above—says in his book: "These bees will winter not worse, but better, than many others. When I say that I have had Cyprians hatched in August and September continue in good health till the following June, it will be admitted that there is not much wrong with them; and this happened in the most protracted winter we have experienced for many years."

Our personal experience in "wintering" founded on over twenty years' bee-keeping further north than our friend Mr. Roden, and ten years in the south, is that bees winter, as a rule, better in the north than in the south.—Eds.]

BUYING CHEAP (?) BEES.

A CAUTION AND A REMEDY.

[3951.] The B.B.J. for April 12 is just to hand this morning, and I notice in it an advertisement of bees for sale in skeps from a man who sent me last year five skeps, advertised in your journal as "healthy," three of which were diseased. Moreover, I see some others being advertised from the same district, and appeal to you to use your influence in stopping this disastrous traffic. A man who keeps large numbers of bees in skeps, and who has foul brood established in his apiary, is not in a position to guarantee his stocks healthy, and such a one must do an incalculable amount of damage if he is allowed to

distribute such stocks unchecked. You may remember that I wrote you on the same subject last year, and that I was then also suffering from misplaced confidence in having purchased diseased stocks of bees from an "expert." My experiences then I shall never forget, for I was eventually obliged to burn over 100 new standard frames all filled with brood or honey, and I feel, therefore, extremely anxious to warn your readers of the danger they run in buying cheap bees from those whose reputation for experience and honesty is not established. If you will allow me the space, I will suggest a remedy that would, in a great measure, safeguard us from all this risk.

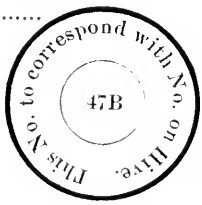
Let us have a ticket—on the lines of the enclosed slip of paper—issued from your office, at a charge which will completely cover all expenses of issue—say 2d. If you will further consent (for, say, a fee of 1s.) to decide on cases of alleged foul brood (see rules on back of slip), I feel sure that, with legal assistance, the £1 fine would be recoverable. I maintain that the above would in all cases be a deterrent, and would ensure stocks being carefully examined before being sent off if the purchaser insisted on having the insurance ticket.

The form of the latter I have only roughly sketched out, and it would no doubt have to be "legalised" and amplified. No *bonâ-fide* seller of healthy stocks would object to insure the same being so, but there are many whose reputations have been so long and well established with whom the precaution would be unnecessary.—GEORGE CAMPBELL, *Ainsdale, Lancs., April* 14.

ONE SHILLING INSURANCE TICKET.

Stock of bees in .....

NUMBER.



I hereby guarantee the above stock of bees to be absolutely free from "Foul Brood" and have sold it to .....
this.....day of....., 1900, on that understanding.

I further promise that if this stock be proved to have such disease (for proof, see rules), I will forward to the said purchaser the sum of £1 as compensation for possible damage done and consent to their destruction of the stock.

Signed.....

Place..... Date.....

Rules.

The combs must be examined immediately on receipt.

If Foul Brood is detected or suspected, a piece of comb must be cut out before two witnesses, packed and sealed in a small tin box, and forwarded to the office of the B.B.J. for the decision of the Editor. I agree to accept his decision as final.

Signed .....

[We will be glad to see the above suggestions discussed in our pages, and shall willingly do what is asked of us in examining samples of comb without fee or charge of any kind.—EDS.]

BEES IN CENTRAL AMERICA.

[3952.] In a book recently published, entitled, "Tangweera," by Mr. C. Napier Bell, M.I.C.E., there are six or seven varieties of Central American bees described on page 233. Mr. Bell used native honey in his coffee, and carried a stock of it with him in reed joints. In many parts of the bush bees are very troublesome, swarming over everything, and particularly on the bare, perspiring skins of the native Indians.

He calls one kind "Mellipona"—nesting in hollows of trees. Grub-cells are at one end of nest, honey-cells at the other, and pollen-cells in the centre. Grub-cells are six-sided, built on a circular plate of wax. Honey and pollen cells are round, stuck together in heaps; the entrance to nest is usually a knot-hole filled up with wax, with only sufficient aperture for bees to pass in and out; a spout-like projection serves for flight-board.

Mr. Bell talks of honey-cells an inch in diameter. The honey of another variety of bee is sour and unpalatable. Some of the varieties attack by biting; others drop a white liquid which irritates the skin; and there are wasp-like bees, with nests aloft six feet in length.

Though the hollow bamboo seems so well adapted for nests, the bees never use them.

The author recommends the domestication of the stingless bee, which produces good honey in considerable quantity in cells holding a tablespoonful. The remarks are worth reading by some one skilled in the entomology of Central America, who may have something else to say on the subject of these stingless bees. There are, doubtless, very good reasons why the variety is not amenable to domestication. — E. D. T., *Eynsford, April* 7.

BEES "AT THE FRONT."

AN ENGLISH SWARM IN SOUTH AFRICA.

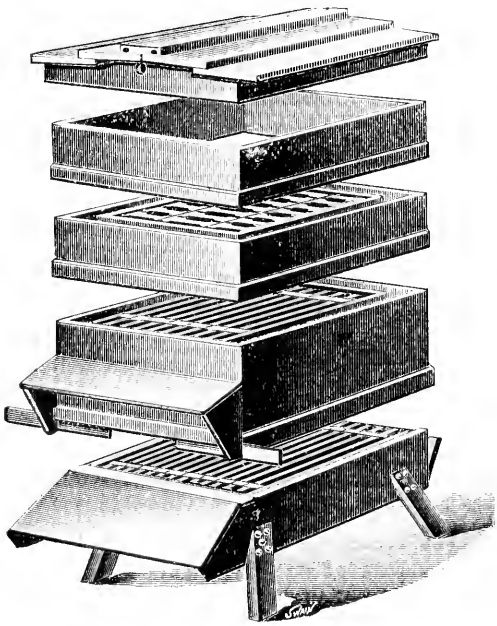
Trooper Harry Redfern, of Leek, in a letter dated from Maitland Farm, South Africa, under date March 21, writes:—A most remarkable thing has happened here to-day. I was unpacking a case containing a consignment of helmets which had just come in from England, when to my surprise right at the bottom what should I find in one of the

helmets but a swarm of English bees, which had swarmed there. The helmet was full of combs containing honey ; I never saw such a thing. I have now removed it with the helmet into the garden here and am taking care of them. There are hundreds of bees in the helmet all working for their life making honey. This is indeed a novelty and I am going to have it photographed this afternoon. I am going to get a proper hive for them, and shall bring the bees and helmet over to Leek when I come back, as I think this a remarkable thing to happen. The bees are doing well ; there are plenty of flowers in the gardens out here for them to go at ; I also feed them with sugar.—*Staffordshire Sentinel, April* 13.

NOVELTIES FOR 1900.

TAYLOR'S TWENTIETH-CENTURY HIVE.

Regarding this hive, which is termed the "up-to-date or twentieth century hive," the



Taylor's Twentieth Century Hive.

manufacturer, Mr. E. H. Taylor, Welwyn, sends the following particulars :—"The floor-board is made deep enough to take a sliding drawer containing shallow-frames below the brood-chamber, which is easily drawn out from the back without removal of the latter, and consequently avoids disturbance to the bees. The chief advantage of this movable drawer is its use as a brood-nest enlarger and swarm preventer when the colony becomes overcrowded ; the bees then use the shallow-frames underneath as an additional brood-nest. These shallow frames are removed from the sliding drawer when packing bees up for winter, the space being left perfectly empty, and in it is gathered the dead bees, cappings of combs, and other débris which usually collects on the floorboard, but in this case is easily withdrawn and cleaned out in the spring. The drawer is then refilled with shallow-frames as before.

"This is by no means a new principle, the same having been well tested during the last seven seasons in my 'Ford-Wells' hive.'"

Queries and Replies.

[2369.] *Transferring from Skeps to Frame-hives and various Queries.*—I have started bee-keeping here by purchasing a straw skep which I am assured contains a strong stock of what the vendor thinks are "Hungarian bees." I have placed the skep on the platform and floor-board of a new frame-hive, and I propose, with the assistance of a friend who has a certain amount of experience, and following the instructions in a book on bee-keeping, to transfer the bees and queen to the frame-hive referred to above by setting the skep on top of a sheet of queen-excluder zinc placed over the frames and covering any space not occupied by the skep ; thus getting the brood and bees at present in the skep into the lower hive. But before commencing operations I should like to know :—1. Is this the best and most advisable proceeding? And if so, when should I do it? 2. Should I feed the bees now? and, there being no hole in the skep for the purpose, should I place some food on the alighting-board? 3. If I transfer, should I place a feeder inside the hive? 4. The skep was brought a distance of one mile. Will the bees return to their old home considering the weather has been wet and cold? 5. If successful so far, may I expect to get heather honey, there being heather on the hills in two directions three miles away? There are very few bee-keepers about here, and it is difficult to obtain any information. I was advised to leave things as they are until the bees swarmed, but think that unenterprising. —A. H., *Sligo, Ireland, April* 7.

Reply.—1. Without knowing what "book on bee-keeping" is referred to above, we think the author thereof would hardly advise "setting the skep on top of a sheet of excluder zinc placed over the frames," &c., because by so doing the method of attaining the object sought would defeat itself, seeing that the excluder will prevent the queen from joining the bees when the latter take possession of the lower hive. Leave out the "excluder," and the plan may work out all right, though we

have no details given. About the last week in April will be a suitable date. 2. A little slow feeding would, no doubt, be advantageous, especially if the skep is short of stores. On no account, however, should the food be given on the alighting-board as proposed; a feed-hole must be cut in the crown of the skep, and an inverted jar or bottle filled with sugar-syrup placed therein, as will, no doubt, be described in the bee-book you have. 3. We cannot make out what is meant by this query. 4. No. 5. We should not count much on the chance of securing a harvest from heather bloom so far as three miles distant, though some little may be gathered from it on very favourable days.

[2370.] *Bees Building Comb on the top of the Frames.*—On top of the frames in one of my hives I have a sheet of glass with a bee space between it (the glass) and the top bars. A day or two ago I turned back a corner of the quilts that I might get a peep through the glass at what was going on below. I found the glass nice and warm, but about the middle I saw some comb built between the glass and the top bar, not much. Kindly say what I may infer from the fact of comb being built there? I said to myself, "stop feeding" (the bees have been getting 3 to 4 oz. every evening since the 1st inst.) and super at once with shallow frames, giving a frame or two, only filling up the other part of the box with dummies. But then, I am only a beginner. Kindly set me right.—W. C. N., *Newton Abbot, April* 15.

REPLY. — The comb-building is caused primarily by the continuous feeding, but if the bee space had been correctly gauged, *i.e.* 3¼ in. between glass and the frame-tops, we do not think the mischief complained of would have occurred. You must not think of "supering" at this season; and if the brace-combs are likely to cause trouble in removing the glass, we should take it off now and scrape the comb away before it is added to.

TRADE CATALOGUES RECEIVED.

W. P. MEADOWS, *Syston, Leicester.*—Mr. Meadows this year issues an entirely new list of sixty pages, well printed on good paper, and illustrated with many new engravings of novelties in the shape of hives, &c. As a manufacturer, Mr. Meadows is sufficiently on the alert for what are useful improvements in appliances as to fairly justify the heading of his catalogue "We Lead the Way."

JAS. LEE & SON, *Holborn-place, High Holborn, W.C.*—The new catalogue of this well-known firm also has embodied in it some capital improvements in hives and bee-goods for the coming season, nearly every page showing something in shape of hives or appliances of which Messrs. Lee are the original inventors and makers. We also note that a department for bees and queens has been included in their list, which is a very complete one.

F. SLADEN, *Ripple Court Apiary, near Dover.*—Mr. Sladen this year sends us a small, but remarkably well got up, catalogue of bees and bee-keeping appliances. It is beautifully printed on art paper and illustrated with high-class tone-blocks. Among other original matter in its pages we find a well-written chapter on bees, and also a carefully selected list of bee-plants and "farm crops" for bees, together with some useful recipes. Send two stamps in writing for above.

J. S. GREENHILL, 80, *Graham-road, Wimbledon.*—Another small, but very compact, list of useful and well-tried bee-goods. Mr. Greenhill's long practical knowledge (gained by twenty-seven years' experience with Messrs. Neighbour & Son) is useful to those making a beginning in bee-keeping, as he still does expert work for customers.

R. H. COLTMAN, 49, *Station-road, Burton-on-Trent.*—Though a comparatively recent addition to the list of bee-appliance manufacturers, Mr. Coltman is one of the progressive school and includes in his catalogue of twenty-six quarto pages some very moderately priced goods of well-known types. We note that a specialty is made of his improved swarm catcher, illustrated last year in our "Novelties for 1899."

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

"BOB" (Ayrshire). — *Honey Sample.* — The colour and flavour are both good, but sample lacks body—indeed, it is so thin as to give the impression that it was taken from sections removed from the hive before the honey was fully ripe.

E. PARSONS (Tunbridge Wells).—*Buzzing or Humming: How Produced.*—1. The humming or buzzing sounds which bees make are not produced by the wings only, but (as stated on p. 84 of "The Honey Bee," by T. W. Cowan) also by the vibration of the abdominal rings and also by the action of a vocal apparatus placed in the stigmatic orifice. That buzzing is not produced by the wings only is proved by the case of the humble

bee (*Bombus terrestris*), which, if shut up in a box, will give utterance to signs of anger or fear by a loud and violent humming, even if the wings are only producing a slight tremulous motion. 2. One of the bees sent is a hybrid Ligurian, the other a common brown bee of this country. 3. The displaced head and indented thorax of dead bee have probably been caused by carelessness in lifting the frame on which the damaged bee was when injured.

C. R. WYMER (Greenwich).—*Honey Samples.*—All three samples are mainly from the lime, and, for a neighbourhood so built up as Greenwich, are good in quality. The granulated sample is best in flavour, and that in comb is not equal to either of the others. No. 2 is good in colour, and, though still liquid, shows signs of starting to granulate. The first-named one would do for a local show, but is hardly fit to compete with honeys gathered where white clover or sainfoin grows plentifully.

J. V. (Collooney).—*Suspected Comb.*—The sample sent contains chilled brood only.

HENRY CLEAVER (Leamington Spa).—*Glucose Honey.*—The cutting you send, though printed in a local paper, is merely a "Yankee yarn" copied from some Transatlantic journal. American bee-keepers suffer from this sort of thing far more than we do on this side, but so far as regards your proposal to take steps to contradict such obvious rubbish as is contained in cutting sent, it would do more harm than good. Better pass it by as not worth contradicting.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, eight STOCKS BEES in good frame hives, 21s. each. Can be seen at any time. GIBSON, Thorn Park, Hackness, Scalby, R.S.O. 849

FOR SALE, two and a quarter cwt. SKEP HONEY, 37s. 4d., in 32-lb. tins free. W. HAWKES, Barley, Royston, Herts. 852

TWO strong SKEPS BEES, 12s. 6d. each; one dozen beautiful SECTIONS, 8s. SMITH, Wheatacre, Beccles. 851

SIX strong STOCKS BEES in bar-frame hives, 15s. each; six ditto in skeps, 10s. 6d. each. WEBB, Station-road, Swindon, Wilts. 850

FINEST Prolific Queens, Stocks, Nuclei, and Swarms. Queen-rearing a speciality for 13 years. List free. Rev. C. BREETON, Fulborough, Sussex, F.N.

FOR SALE, several excellent STOCKS in straw hives and bar-frames. Apply LINSTEAD, Garboldisham, Thetford. 853

STRONG, healthy STOCK in double hive, complete £1 1s. HILLSIDE, Ashingdon, Rochford, Essex. 854

EXTRACTOR WANTED, second-hand. State make and lowest price. HOLLAND, Wellington, Salop. 847

SKEPS of BEES, guaranteed healthy, foul brood unknown, 14s. each. Packed and put on rail. Terms, cash. G. KNOWLES, Bee-Keeper, Ely.

Prepaid Advertisements (*Continued*).

FINEST ENGLISH HONEY, in 28-lb. tins, 6d. lb.; tins free; sample 2d. Deposit system. RICHD. DUTTON, Terling, Essex. 845

HIGH-CLASS HONEY, 50s. per cwt.; 28-lb. tins free. F. WOOLDRIDGE, Parliament-street, Chippenham, Wilts. 848

FOR SALE, eight cwt. good, ripe HONEY in 28-lb. tins, 54s. per cwt.; also two and a half cwt. '98 HONEY (good, but little dark), 42s. per cwt. Tins free. Sample 2d. H. PENFOLD, Horton, Epsom. 846

SEVEN SKEPS FOR SALE, £3 5s. the lot. STUBBS, College, Ely, Cambs.

FOR SALE, eight STOCKS BEES in straw hives. Last year's swarms. WHITTING, Manea. 829

OVERSTOCKED. — Sixteen SKEPS of BEES FOR SALE, or Exchange. TOWNSEND, Coneysthorpe, Malton. 837

FRENCH BEE-KEEPER desires to Exchange Postage Stamps for Collection with British Colonial Bee-keeper. VALLET, 71, Rue Condamine, Paris.

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 828

FEW grand STOCKS of BEES, guaranteed healthy, strong carpenter-made hives, 35s. each. CLEVELAND, Margate. 815

1,000 LB. HONEY FOR SALE, cheap. 40 lb. sent on approval. Apply, JOHNSON'S APIARY, Soham, Cambs. 812

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. SIMMINS, Heathfield, Sussex, F.N.

FIVE guaranteed healthy STOCKS in Standard hives, 20s. each. LADY'S CYCLE, in good condition, £4. Particulars from CYCLIST, 155, Fulham-road, London. 826

THROUGH DEATH of OWNER.—Mrs. J. W. Avery, Ripley, Surrey has for DISPOSAL strong STOCKS of BEES in skeps, guaranteed healthy, price 10s. each.

ITALIAN '99 QUEENS; first cross; good tempered; good honey gatherers; guaranteed free from foul brood. Strong ten-frame Stocks, £1 each. O. KNIGHT, Epney, near Stonehouse, Glos. 824

THREE healthy STOCKS of BEES in nearly new frame hives, with 1899 queens, 25s. each, or £3 10s. the lot. L. HARRISON, Aldwick House, Bognor, Sussex. 819

FOR SALE, best offer, seven STOCKS of healthy BEES in good frame-hives, four empty Frame Hives, Honey Extractor, Supers and worked-out frames of Comb, and lot of sundries; equal to new; leaving district. A. TEMPLE, Aslackton, Notts. 820

FOR SALE, slightly soiled, two "Cowan" Extractors, 42s. 6d. each. Also a few smaller Extractors, geared and ungeared. Wax Extractors and Honey Ripeners cheap. R. H. COLTMAN, Bee Appliance Maker, Burton-on-Trent. 841

SIX good STOCKS of BEES FOR SALE, together or separately, some may be had in temporary hives which may be returned; a well-stocked "Wells" Hive and two Skeps included if desired. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

WOODLEY'S PREMIER HONEY. Selected White Clover, glazed in lace, 9s. per doz.; fine quality well-filled Sections, glazed in lace, 8s. per doz.; good Extracted Honey, screw-cap jars, 8s. 6d.; good Extracted Honey, tie-over jars, 8s. Carefully packed, cases free. W. WOODLEY, Bee Farmer, Beedon, Newbury.

SWARMING SEASON, 1900. — Healthy Natural Swarms of Woodley's selected strain of English Bees, 10s. 6d., 12s. 6d., and 15s.; headed with 1899 queens. Boxes and packing free. Safe delivery guaranteed. Orders in rotation. W. WOODLEY, Bee Farmer, Beedon, Newbury. Telegrams: "Woodleigh Chieveley." Free delivery.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 12, Hanover-square, London, W., on Thursday, April 19, Mr. E. D. Till occupying the chair. There were also present—Miss Gayton, Major Fair, Messrs. H. W. Brice, W. Broughton Carr, W. H. Harris, J. M. Hooker, W. F. Reid, and the Secretary.

Letters explaining absence were received from Messrs. H. Jonas, J. H. New, C. N. White, and F. B. White.

The minutes of the last meeting were read and confirmed.

Mr. Thos. S. Elliot, Home Lea, Church Hill, Walthamstow, and Mr. Walter F. Reid, Fieldside, Addlestone, Surrey, were duly elected to membership.

On the motion of Mr. W. H. Harris, seconded by Mr. H. W. Brice, Mr. T. W. Cowan was unanimously elected as Chairman of the Council for the ensuing year, and by a similar vote, Mr. W. H. Harris was appointed Vice-Chairman, in succession to Mr. Till, resigned.

The Finance Committee was appointed to consist of Major Fair, Messrs. H. W. Brice, J. M. Hooker, H. Jonas, J. H. New, E. D. Till, E. Walker, T. I. Weston, and F. B. White.

Arrangements were made for a number of examinations in different centres, including the examination for first-class expert certificates, to be held in London on Thursday, May 17.

It was resolved to make grants of medals and certificates of merit for honey to be exhibited at the forthcoming "Confectioners'" Exhibition on September 8 to 15, and at the "Grocers'" Exhibition on September 22 to 29 inclusive. These annual gatherings afford exceptional facilities to those bee-keepers wishing to get in touch with traders in bee produce.

The Secretary reported that the proposals in regard to the classification for honey, &c., at the Dairy Show had been duly approved by the Council of the British Dairy Farmers' Association. The schedule has been brought up to date, and should enlarge the interest in the Dairy Show. Exhibitors should note that it will this year be held on October 9 to 12, a fortnight earlier in the month than usual.

SPECIAL.

Intending exhibitors are hereby finally reminded that entries for the "Royal" Show at York, at ordinary fees, will close on Tuesday next, May 1. Schedules may be obtained on application to the Secretary of the B.B.K.A., 12, Hanover-square, London, W.

Provision is made for the return of entry fees in case of untoward weather retarding the gathering of honey entered in the classes for produce of the current year.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SPRING NOTES FROM LANCS.

[3953.] *April* 6, 7.—Very bright and warm in sunshine, but winds very cold. The latest spring I have known for years. Vegetation all at a standstill for nearly a month. Still rather frosty during the night. Only fancy the end of the first week of April and no daffodils! The crocuses have passed their best, but the smaller and "seedling bulbs" are still sending up their flowers. On Friday, the 6th, during the bright, warm sunshine, it was a glorious sight to see the expanded blooms and the bees hard at work thereon. I replenished the feeders on the two hives that I feared likely to want food, and on Saturday they seemed to show their appreciation of my kindness by their activity.

April 8.—Very dull and cold. Scarcely a bee out. Crocuses remained closed. Looked at the feeders put on last Friday; found about one-quarter taken; replenished with warm food.

Easter Holidays.—From a bee-man's point of view "the rest is silence." From 19th to 22nd inclusive I may sum by saying—"Glorious weather for the bees." Early and late they have been at work, the white arabis, which I grow in profusion, and the gooseberry blooms being favoured by their visits. I noted several exceptionally large queens of the *Bombi terrestris*, *muscorus*, and *lapidarius*. On the 19th, just about sunset, I very successfully united a small stock with a queenless nucleus. Flour was the medium. No fighting—they took to each other quite naturally. In my examination of stocks I note one important point, which is of interest to all bee-keepers who study the different points of different varieties of the *Apis mellifica*. I find that natives—of which I possess two almost pure stocks, I dare say as pure as we can now find them—consume about three times as much food in winter as my other stocks, which are principally hybrid Carniolans. They went into winter quarters quite as fully provided with stores and candy as the latter, yet they are completely denuded, whilst the latter are amply provided with sealed combs.

Bees dying with glutted combs. Why? I hear of numerous stocks dying this winter in South Lancs without any apparent reason. Ample stores—slabs of sealed food—were in the hive, and proper front ventilation appears to have been given. No disease, nor trace of it. Well, I can only account for it in one way. During the late severe spell, no passage-way *over* the frames having been provided, the

bees were not able to work their way to the full combs, and perished on the exhausted side of the hive. A cake of candy would have served the purpose. No matter how plentifully supplied with stores my bees are, I never neglect this precaution, which is always renewed when consumed, weather permitting. I have striven to impress the importance of the top-passage by preference a cake of candy—but, unfortunately, ours is a craft of too many haphazard adherents, and I suppose we may go on instructing such "bee-keepers" to the end of time without succeeding in getting them to help themselves.—WHITE CLOVER, *April* 22.

QUEEN EXCLUDERS.

[3954.] Most of us are now, I suppose, forming our plan of campaign for the tardy spring of this year. Many such plans involve the use of excluder zinc between the brood-frames and supers. Fifteen years' experience enables me to say that this is absolutely unnecessary, if an empty frame with worker comb or f.c. is inserted in the centre of the hive when the super is put on. I always do this, and have scarcely ever found any brood in a section or super. Three years ago I hived a very strong swarm, which absolutely refused to be satisfied with eleven standard frames of f.c. (all that the hive would hold), so I was obliged to put a super on at once, and on two of the shallow frames therein contained I found brood. That is, I think, the only instance I have met with. Boxes of shallow frames added below brood-box on threat of swarming I have always found free from brood.—P. C. JAMES, *Wortham Rectory, Diss, April* 19.

THE SEASON IN WALES.

[3955.] Notwithstanding the persistently unfavourable weather which prevailed until a few days ago, my stocks are in better condition than I have ever before found them at this date. One stock in particular is phenomenally strong. The hive holds seventeen frames, and all are crowded with bees—so crowded that some of the bees have to find accommodation outside. I am inclined to think that the flourishing condition of this stock, and of two or three others in a lesser degree, is to be accounted for in part by the fact that they took a prominent part, five or six weeks ago, in a raid on the stores of one of their neighbours, and thereby stimulating their queens to egg-laying, but causing also the loss of the stock robbed—the only loss out of a total of 43 colonies. A peculiar feature of this raid was that although this stock was in normal condition, having brood in all stages, and being fairly strong, the robbed made no defence whatever, and the robbers carried off their loot without suffering any casualties.

I have never supered my stocks until well on in June, but the present warm weather, in conjunction with the forward condition of the bees, makes me consider whether I ought not to depart from my usual practice and give room for the storage of the honey which is undoubtedly coming in.—J. MORGAN, *Upper Boat, Pontypridd, April* 21.

BEE NOTES FROM CYPRUS.

[3956.] The first honey flow in this semi-tropical climate, and specially in the locality where I am living, commences about the beginning of April; by this time nectar comes in chiefly from lemon and orange, and a little from eucalyptus and other blossoms. In May, June, and specially in July the eucalyptus trees supply the winter stores of the bees, and, as many of these trees are of huge size, they may be said to constitute forests of eucalyptus about the town of Nicosia. On the moors, where immense tracts of land and hills are covered with a kind of bush of the thyme family, honey of excellent quality is gathered, which is much valued by the natives, strong colonies being able to collect 100 lb. sealed honey during the season besides what is consumed daily.

On the mountains of Cyprus also bees gather freely from the various kinds of wild flowers growing thereon; but the hornets abounding everywhere, and the lack of knowledge, constitute a great drawback to the improvement of bee-farming in Cyprus.

The temperature in the lowlands is, in the early part of April, from 60 to 75 deg. Fahr. in the shade; while the weather is much less variable than in the previous months. In May temperature is usually 70 to 80 deg., in June 75 to 85 deg., and in July, August, and September 85 to 95 deg., sometimes reaching 100 deg. Fahr. Rain falls seldom and scantily.

Swarms from strong colonies usually issue about mid-April, and generally leave large numbers of drones behind in the parent hive, together with from fifteen to thirty (and sometimes forty) queen-cells, according to the condition of colony. One or two casts follow each first swarm if the season is a favourable one. Weak stocks, as a rule, become strong in May and June, and, if not prevented, they will generally swarm in June when the eucalyptus trees are in full bloom.

The hives in which my bees winter are double-walled and of varying capacity; most of them hold two colonies, with thirteen frames to each lot. Others hold four colonies, with nine frames to each, and a few are so arranged as to take either four colonies, of twelve frames, or six of eight frames each, as may be desired. When more than two colonies are under one roof the entrances open to both sides, with a fixed division board between, the body-boxes being placed back to back. The frames in the six-colony hives hang at right angles to entrance, but in the others they are parallel thereto.

The hives stand in a single row, about three

yards from the side wall of my house, facing S.E., so that the house serves as a splendid shelter from frost, which at times visits us with the northerly winds. The roofs are all covered with tin plates, so nailed on as to allow a free air-space of one inch between the wood and metal; this prevents the heat or cold contracted by the metal from affecting the even temperature inside, and thus contributes to the well-being of the bees. I paint the hive-bodies white and the roofs red.

These roofs are hinged to open on one side over the entrances, a piece of cord holding the cover in position when open. This device is, I think, of considerable advantage, not only in saving trouble in removing and replacing roofs, but also in shading the frames and bees from sunshine when manipulating.

As covers and quilts I use the thick, coarse, native cotton-cloth, which resembles cheese-cloth, while, to avoid propolising, and also to prevent the bees from wasting time in gnawing holes through the quilts, I am this summer using a thick English calico—called here T cloth. This is painted with boiled linseed oil, mixed with very little bees-wax. On these covers are placed a sheet of newspaper and, over all, a muslin case filled with unmanufactured cotton, which latter is soft and light as feathers. Such cushions give free escape to the moisture arising from the bees and so tend to prevent dysentery in winter and spring.

The disease called dysentery is, I think, due to long confinement of bees in badly ventilated hives during damp and muzzy weather; especially when they have to live on unripe or on spoiled honey and pollen. In Cyprus, even during the middle of winter, the bees occasionally enjoy sunny and mild weather to take a cleansing flight, and as both summer and autumn here is very dry, the honey ripens automatically. It may be that, owing to this advantage of climate, foul brood is not known here. But dysentery sometimes occurs among the bees kept in native hives located in damp places; it can, however, be prevented by avoiding excessive damp and chill.

The dead air contained between the outer and inner cases of properly-made hives, with the help of the above-mentioned cushions and of the 6-in. empty space left between the cushions and the roofs, maintains, as far as possible, an even temperature day and night, and this state, I believe, is also essential for the well-being of bees and brood.

Brood-rearing never actually ceases all through the winter by strong colonies located in the low lands of Cyprus and kept in double-walled hives, but it only commences on a large scale about the middle of January, and by the beginning of March the hives get so crowded that it becomes necessary to deprive them of part of their brood, replacing them with frames of comb-foundation; the brood removed being given to weak colonies. We thus do good to both weak and strong stocks, because the first honey-flow does not commence till the beginning of April. This date (first week in April) is the best time for starting queen-rearing, because nectar just then comes from orange and lemon blossoms. I remove the queen only (experience having taught me that when the queen and a few frames of brood are removed together, the bees become so discouraged that they form few queen-cells) from my strongest stocks, which, of course, indicates the most prolific queens. These are introduced to colonies of which the queens have been condemned beforehand. I at once supply the colony from which the selected queen was taken with a pint or more of thin sugar-syrup. The bees thus get happy, and, being gorged with the syrup, they throw out eggs from the cells to store the syrup in. By this means the number of queen-cells raised from drone eggs is greatly diminished. Otherwise, queen-cells containing drone-producing eggs or larvæ is sure to happen, and when it does, I am sometimes misled myself, and the bees are disappointed as well, with the result that, if not detected early enough, fertile workers appear and ruin the colony.

In twenty-four or forty-eight hours after removing the queen I take a comb filled with eggs from a nucleus having one of my finest queens (purposely given to a nucleus in order to make her lay eggs only for the production of worker-bees), I cut this comb into strips 1 in. wide, and I fasten these strips to the undersides of top bars and also on bars specially nailed on the middle of frames, so that I obtain two rows of well-developed queen-cells, about twelve on each row, and these cells are sufficiently apart from each other to permit of separating them without injury. The queens produced from such eggs and cells are full grown, and make vigorous mothers.

I have observed that queens reared from larvæ previously intended for workers hatch later than those reared from larvæ originally intended by the bees for the production of queens, and that queen-cells located at the lower edge of comb near the bottom bar, or at the sides of comb where space is cramped and limited, are not nearly so large and well formed as those reared from cells attached to strips as above.

The best time for queen-rearing in Cyprus is during May and June, when weather and all other conditions are favourable.

About seventy-two hours before the queens are ready to batch I form nuclei, each consisting of two combs of brood and one of honey and pollen, all covered with bees. These are kept in a dark room until the cells are ready to be given them, otherwise most of the bees return to their mother hives and robbing ensues.

These nucleus hives are one by one supplied with queen-cells at end of second or third days, and carried to their intended spots in the apiary, where the entrances are opened only wide enough for the passage of a single bee at a time. After ten days they are

examined to see if the queens are mated and laying; and I do not dispose or export any of these queens until they have been at work for one month, by which time they have laid a large number of eggs and the colonies have sufficient young bees to raise or rear queen-cells, when three such nucleus colonies are united after losing their queens.—M. G. DERVISHIAN, *Nicosia, Cyprus, April* 12.

ABOUT BEES IN KENT.

SPRING COMES AT LAST!

[3957.] Since the dawn of Wednesday, April 18, so marvellous a change has taken place in the kingdoms of birds and beasts, insects and flowers, that one is almost fearful of the rapid development. One feels as though the seasons to follow will fly by similarly and bring us to the long winter once more, all too soon. The bees seem to have been suddenly created, so vast is their number; there never was such an apparently remarkable transformation. On the 3rd of the month an opportunity occurred with a bright interval for superficially examining the hives, and I found all my stocks in good heart, particularly three or four of them, which are now specially strong, as indeed they all are. To-day I was able to thoroughly examine them and put all in working order for the anticipated honey-flow. The stocks were wintered on seven or eight frames, and it was found that five out of six of them, respectively, were nearly full of healthy brood, soon to be young bees. If Æolus will only be so considerate as to keep the east wind in hand for the next three months—as, indeed, I think he ought to, considering the amount of freedom he has given it in the past month—I am sure that all bee-keepers will be enabled to rejoice with me in the prospect of a rich harvest.—W. H. COWLISHAW, *Chiddingstone, Kent, April* 21.

NOVELTIES (?) FOR 1900.

[3958.] I must take exception to the "Novelty for 1900" (Mr. Taylor's hive) of last week (page 158). This is an exact copy of the hive I showed and was awarded first prize for at the "Royal" Show, Birmingham, June, '98, and illustrated on page 276 of B.J., July 14, in that year.

Mr. Taylor's "note" at the end of his description is also incorrect. We are all aware a body under brood-chamber is *not new*, but I claim that an entrance between them *is new*, and the subject of my patent, about which I shall have something to say to Mr. Taylor.—W. P. MEADOWS, *Syston, Leicester, April* 21.

CYPRIAN BEES.

[3959.] There seems to be much diversity of opinion as to the quality of the Cyprian race of bees, and in view of the fact that the *pure* strain may be obtained direct from Cyprus, I think that in fairness to these bees a few words as to my experience with them will not be out of place at this time of the year as some of your readers may be rather shy of giving them a trial. I would therefore say that, judged by my personal experience, the progeny of the queens I had direct from Cyprus last summer could not be surpassed by any variety of bees. The queens are exceedingly prolific breeders while the workers are very active and easy to handle. Bee-keepers are well aware that the temper of all bees will vary according to season and weather, but I have handled Cyprians with ease at times when I have been quite unable to do anything with the Blacks because of their pugnacity. To those bee-keepers who are inclined to give these bees a trial, I would advise them to get the pure strain direct from Cyprus, and I am sure they will find the quantity and quality of their work as beautiful as their appearance.

It is hardly necessary for me to add that I have no interest whatever in the sale of Cyprian bees, or in any other way, beyond that of a reader of your journal, who tried them after seeing an advertisement in the B.B.J.—W. G. ATKINS, *Deal, Kent, April* 16.

DON'T FORGET!

[3960] May I be allowed to again remind readers that entries for the bee and honey exhibits at the Royal Agricultural Society's Show at York will close on May 1, and, therefore, all who have not lodged an entry have but a few days to spare before the door will be shut.

It should not be forgotten that if weather be unfavourable, so that honey is not forthcoming in time, entry money will be returned; therefore none should hesitate who have the least prospect of providing an exhibit in time. This, of course, refers only to new honey classes, but there are capital prizes for old honey, and every prospect of success for those who have good stuff to show.—A BEE-MAN, *Kent, April* 20.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. White—one of whose apiaries is seen on opposite page—is another welcome "appearance" as a B.J. reader, for we may regard him as one of the most active workers in the cause. A member of the Council of the B.B.K.A., Hon. Secretary of one of the largest county Associations in the kingdom, and an excellent "man at the helm" when a bee and honey show is being floated, his activity and business capacity makes itself felt in so many directions that one hardly wonders why success is generally assured in what he undertakes.

It is to gentlemen who, while retiring from active business life, are willing to employ their leisure time on such pursuits as they make a "hobby" of to whom Bee-keepers' Associations owe so much of their success; and this is notably the case where Mr. White is con-

cerned, for his thorough business habits are infused into all the voluntary work he undertakes. We hope his interest in bee-keeping may long continue, for such help as he renders is all for its good.

Of himself, at our request, he writes :—

"In reply to your request, I am sorry I cannot mention anything novel or original in the plans of managing my bees, and therefore have really little to say that will interest the readers of your very valuable and instructive publications, the BRITISH BEE JOURNAL and *Bee-keepers' Record*, both of which I regularly receive and derive much pleasure and useful information from.

"It is about twenty years or more since I first became interested in bees and their work, and my first information as regards their habits and management was obtained from the perusal of the Rev. J. G. Wood's book, entitled 'Bees, their Habits, Management,' &c. Since that time I have studied other works, amongst them Mr. Cowan's 'Guide Book' and his 'Honey Bee,' Cheshire's 'Bees and Bee-keeping,' Cook's Manual, besides the works of Dzeirzon, Langstroth, Huish, Huber, Quinbey, also several others which I cannot at this moment remember.

"I should have started keeping bees at the time I first became interested in them but for the fact that my professional calling left little or no time for bees to be added to gardening, which has always been my means of recreation.

"However, later, when I practically retired from a busy life, bees were added to my several amusements. For the last five years I have taken an active part in our bee-keeping industry in this county, to which I have devoted considerable time, having an ardent desire to assist in developing so useful, profitable, intellectual, and interesting a pursuit, worthy and capable of very considerable advancement in this country, and which I hope to see much more extended and practised than at present. I venture to think this will be the case, owing to the active assistance rendered and the good work carried out by the British Bee-keepers' Association and the many county associations affiliated thereto.

"The accompanying photo shows my out-apiary, situated about a quarter of a mile from my home, and in the kitchen-garden attached to my house there are many more stocks, numbering at both apiaries thirty-nine. I have also a stock working in a ten-frame standard observatory hive in my study, for the purpose of observation and to initiate beginners into the first stages of bee management. I am always pleased to see all that come, wishing to assist every one willing to take up bee-keeping.

"In the photo on the left of the picture is my eldest son, who, along with my other children, is greatly interested and carries out many manipulations with the bees. Even my youngest boy aged eight, has his own stock of bees to look after and does all himself."

MR. F. B. WHITE'S OUT-APIARY, REDHILL, SURREY.

Queries and Replies.

[2371.] *Manipulating Bees.*—I was much interested in the article in your issue of April 5 (3939, page 134) on "Manipulating Bees." Your correspondent "C. A. P." says that the damp quilt prevents the bees from propolising, and also "keeps the sections beautifully clean." To ensure both these objects, should not the quilt be in a constant state of moisture? and if so, how is this secured? 1. Would "C. A. P." kindly give some information on this point? In the chapter on Artificial Swarming in the "Guide Book" (page 92), "to make three colonies from two," the author says that the stock which supplies the bees should be "removed to a new stand." 2. I therefore ask: How far, as a minimum, should this stock be removed from its old site, so as to ensure the bees in it when moved not returning to the old spot and entering the new hive there placed?—A. F., *Uxbridge-road, April* 18.

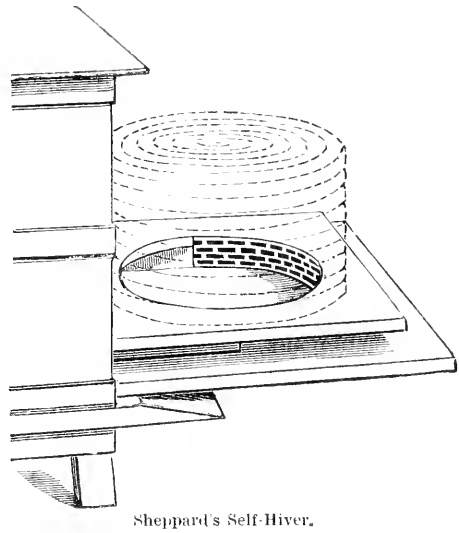
Reply.—1. We will draw the attention of our correspondent "C. A. P." to the above request, and hope for a reply. 2. If convenient, the hive which supplies the bees for the artificial swarm should be moved six or eight yards at least from its original stand.

[2372.] *Débris on Floor-boards.—Mildewed Pollen.*—On examining my stocks to-day, I noticed the floor-boards of several hives littered with a white powdery substance, while one contained patches of comb with cells more or less full of a brittle, white, chalky-looking substance. 1. What would this be? 2. What is the remedy, if harmful? —Taunton, *Somerset, April* 19.

Reply.—1. The "white powdery substance" will be chippings removed by the bees from sealed cells when uncapping food for use. 2. This is, no doubt, pollen that has become hard after being mildewed.

[2373.] *Self-hivers.*—Being much interested in the question of self-hivers, I asked a bee-keeping friend his opinion on the simplest form for use with a beginner. He tells me that a good one was described and illustrated in the B.J. some time ago under the name of the "Sheppard Self-hiver." Could you give a brief description of it for the benefit of more recent subscribers to your journal like myself? —Second Year, *Lancs, April* 13.

Reply.—The "hiver" in question is thus described by its designer, Mr. W. J. Sheppard, hon. secretary of the Essex B.K.A.:—The contrivance, as will be seen from sketch, consists of two boards, the lower one being a few inches larger than that above; and these boards are spaced one inch apart by means of two slips of wood one and a-quarter inch square and ten inches long. From the ends of these slips is fixed in circular form a piece of queen-excluder zinc, as shown. The width of hiver is regulated by the width of the hive front on which it is to be used, and special details will also need to be introduced to accommodate peculiarities of entrances, porches, &c., seeing the hiver is so fixed that no bees



Sheppard's Self-Hiver.

can pass either in or out of the hive except through the excluder zinc and across the new flight-board provided for them. In using, the stock hive is moved rearward, so that the front of the hiver falls exactly in the place of the original flight-board, and the bees, alighting there as usual, pass through the zinc and right across the space between the two boards into their hive. The dotted lines in the cut indicate the straw skep (or the frame hive, whichever is used) into which the queen and swarm is expected to ascend when the former finds she cannot pass to the outside. One great advantage claimed for this contrivance is that it allows the drones to pass up into the empty hive, and so lessens the chances of their blocking up the perforations of the excluder zinc with their bodies.

[2374.] *Wax Moth Larvæ on Frame-Tops. —Saving Queenless Bees.*—I have two colonies of bees, both I think with a trace of Ligurian blood in them. No. 1 I have just looked at and find it full, bees being on all the ten frames. This hive, a "W.B.C." (and a splendid hive it is), is full of life, pollen has been carried in for weeks to such an extent I wondered where it could all be put, but I find there is yet room. I have fed these bees with about four pints of medicated syrup and continue to do so as they were short of stores. I found and killed three wax moth worms on top of frames; these were old frames bought

with the bees two years since ; ought I to take out each comb and see if more damage is done ? Two frames of wired foundation I put in last season, and in which I filled the top of the saw-cut with ordinary glazier's putty, looked very different, as clean as possible. I can strongly recommend the doing of this, it is but little trouble and certainly more than repays one for it. 2. For the last two days the bees have not been so busy and some hundreds cover the alighting board and apparently do nothing else, an occasional load of pollen only coming in, and these workers often have to crawl over the others to get in ; ought I to give more room and how ? What about putting on a super of Standard frames with foundation or combs and let the queen go up, or are the nights too cold yet ? No. 2 hive is a sad contrast to No. 1, only about half-a-pint of bees in it, and to-day I have seen but one bee carry in pollen ; it looks deserted, with two or three bees now and then visible. I took out all the frames and found very decided marks of dysentery ; one new comb not quite drawn out being much marked, the others are too old and dark to show the stains which are probably there ; there is plenty of honey in them. I could not find the queen and think she must be dead ? 3. What should I do with this hive ? and may I give them this stained comb, which is otherwise good ? 4. Should I at once re-queen the hive with or without an additional swarm, or should I give them a frame of bees and brood from No. 1 ? My "W. B. C." hive with the section-box I mentioned in a recent letter is one of Howard's make.—HEXAGON, *Criccieth, North Wales, April* 20.

REPLY.—1. If, as we expect, the "worms" found in saw-cut of top-bars are the larvæ of the small moth usually seen between quilts and frames, it is more than probable that no damage will have been done to the combs below. A stock so strong as you describe is generally able to protect itself against internal damage to its combs by the lesser enemy ; it is the larvæ of the genuine wax moth (*Galleria cereana*)—which is nearly an inch long and proportionately thick—that can overcome the defensive powers of a strong colony. Examine a comb or two and you will soon satisfy yourself on the point. 2. It is an agreeable novelty to hear of stocks being so forward as that mentioned in so backward a season as this. We should, however, give no room above just yet, unless examination shows the combs to be well occupied with either brood or stores. This is, however, not at all likely to be the case, and, in consequence, we advise letting well alone for the present. 3. If bees are so few there should be little difficulty in seeing the queen if there is one ; having "seen pollen carried in by even one bee," makes it worth while to make another search for queen or eggs or brood. 4. If the bees are really queenless and only about "a half pint" of them, they are not worth requeening or taking any trouble over, so far as regards saving them to be of any future use.

[2375.] *Queens Coming out of Hive.*—It is stated in books on bee-keeping that the queen after fertilisation never leaves the hive till she leads off (or accompanies) the first swarm of the ensuing season. A friend of mine and I were to-day watching the bees in one of my hives carrying in pollen, and we saw the queen come out on to the landing-board. She stayed outside a short time and then re-entered the hive. It is a fairly strong colony, eight of the eleven frames being full of bees. Would you kindly tell me if this is an unusual occurrence, and the probable reason for what we saw ? To-day is the first really fine day we have had this season in this part of Scotland, and are not the bees going ahead ! It's quite a sight to see them.—J. A., *K.R., Perthshire, April* 19.

REPLY.—Instances do now and then occur when a queen comes outside on to the flight-board, but without taking wing. It therefore does not affect the accepted view as stated in books referred to. Glad to hear bees are doing so well in Scotland.

[2376.] *Queen not Laying.* — Last autumn I purchased an imported Carniolan queen which I introduced to some bees that had been driven from a skep and placed in a bar-framed hive. The queen was not received for some time after being ordered, and when she arrived rough weather had set in. However, she was safely introduced, but on examination a few days since I found she had not commenced to lay, and only a very few bees now remain—not more than half a pint, if quite that. The queen was still alive. I gave some warm syrup, but the bees do not seem to take it. Can you account for queen not laying ? I have three other stocks which are doing well. —ANXIOUS, *Tavistock, April* 21.

REPLY.—The sparseness of bees would in some measure account for the queen beginning egg-laying later than usual, but there must be something radically wrong with queen if no eggs can now be found. In fact, it looks very much as if she is sterile, or else has been injured in some way. Examine the combs again for eggs now the weather is warmer. If none are found, the stocks may be regarded as of no value.

Echoes from the Hives.

Newton Abbot, Devon, April 23 —We have had grand weather here during the last four days ; temperature (in the sun) 76 deg., 76 deg., 83 deg., and 92 deg. Pear and plum-trees masses of bloom ; apple-trees closely following. Bees here, there, and everywhere. —W. C. H.

CONVERSATIONS WITH DOOLITTLE.

EMPTY COMBS *v.* FULL SHEETS OF FOUNDATION.

"Good morning, Mr. Doolittle. I came over to have a talk with you about combs. Can you give me some idea in regard to them, how to use to the best advantage, &c., as I am a beginner in bee-keeping? Did you have all the combs you desired at first?"

"Glad you called, Mr. N. When I first began keeping bees there was no such thing as comb foundation, hence whatever comb we got had to be built from the start by the bees. My bees at that time would persist in building more or less drone comb, which I would not tolerate in the hives beyond a piece as large as the hand, therefore I was short of combs, and was often obliged to work colonies for comb-honey with as few as six 'Gallup' frames in a hive."

"How many do you now use?"

"Nine. But in those days it was thought that a hive should contain at least 2,000 cubic inches in the brood-chamber in order that the best success might be had."

"What success did you have?"

"My bees increased so fast—with my determination to allow little drone comb in the hive—that it kept me for years so I did not average seven Gallup frames to the hive, this being less than one frame more than half the number required to fill a hive of 2,000 cubic inches; and for this reason I was *compelled* to lay the foundation for what is now known as 'the contraction system.' The success obtained by the use of these few *all-worker* combs led me to give the matter in print, and from such beginnings we have the contraction system of to-day, practised by many bee-keepers who hive their swarms in a brood-chamber containing only about half the comb space of those used by our fathers."

"How did you manage this comb-building matter?"

"As I wished to make the most of my bees, they were allowed to build comb in the brood-chamber till the yield of honey came on plentifully, at which time sections were put on, after contracting the bees by means of division boards or dummies, to as many combs as they had completed up to that time. Thus, in 1874 and '5 I obtained an average of over 100 lb. of box-honey in each of the two years, per colony."

"What did you do with the drone comb you took away?"

"The drone comb was taken away before any bees had matured in the cells; and in this way I obtained my starters for the sections, filling some of the sections entirely full where I had enough of such nice white drone comb to do so."

"And you used these filled sections as 'baits,' did you not?"

"You have guessed it exactly; for these filled sections were placed in the centre tier of sections for each hive, and in this way the bees were coaxed into the sections much sooner than they otherwise would have entered them."

"What did you do where frames were partly filled with both worker and drone comb?"

"Where frames were so filled, I bought up all the nice clean worker comb I could find from parties that filled their bees in the fall for honey, and from those which died during winter, often paying as much as 25 to 30 cents per pound for it; and, after cutting out the drone combs from my frames, I fitted worker in its place, thus preventing the bees from filling the same space again with drone-comb. After this, if any I had bought was left, I fitted it in frames for use where most needed, often using pieces not more than 4 in. square, soldering them together, and holding them in place in the frames with melted beeswax, till the bees fastened all securely together."

"Do you think such a plan would pay at this time?"

"In these days of comb foundation it is doubtful whether it would pay to fuss with pieces of comb, even if they cost nothing, unless it might be by way of laying in a stone of economy, helpful for the future of any life which tends toward extravagance. However this might be, I think that, to melt up fairly good combs, as some do, and buy foundation as some recommend, is very poor policy."

"Where we allow the bees to build their combs, when should it be done?"

"Much loss is always sustained by letting bees build comb in brood-chambers during the best of the honey-flow, unless it is new swarms having the hive contracted to a few frames. The time to build the comb is when honey is coming in moderately, not only as regards the saving of honey, but because more worker comb will be built when honey is coming in slowly."

"How about the new swarms you hinted at in your last remarks?"

"Early in my commencement in bee-keeping I was obliged to buy comb, as I told you, as there was no foundation then, nor could I buy combs built in the frames, or get my bees to build enough before the main harvest for them to rear brood in while at work in the boxes; but later I struck on the plan of giving my new swarms only five frames; and as soon as these were filled with all-worker comb I spread them apart, putting in each alternate space an empty comb, so that the hive was filled out in time for honey and bees sufficient for successful wintering."

"Did not five frames make a hive too small for a large swarm of bees?"

"If the swarms were too large to work profitably building these few combs, sections were placed around and over them, so they could work in these, thus losing no time to the bees. In these experiments I found that I

could secure a third more honey from a swarm treated in this way than from one building the whole hive of comb during the height of the honey-harvest, besides securing nearly all straight worker combs in each frame given. There is nothing of more value in the apiary than *good straight* worker combs, except good prolific queens."

"From what you say, I judge good worker combs are of more value than I had supposed."

"Such combs are of *great* value, and should be looked after with care when away from the bees, and the larvæ of the wax-moth should not be allowed to spoil them, as very many of our bee-keepers so often allow."

"But is not comb foundation just as good or preferable?"

"Some seem to have the idea that comb foundation is preferable to frames full of comb. This, I think, is a mistake, for I know of no spot or place where they are as good, for the bees must consume some time in getting the foundation worked out to full combs, saying nothing of the expense of buying it, or the time taken in putting it into wired frames. To my mind, a nice straight worker comb, built true in the frame, from foundation or otherwise, is worth double the same amount of foundation."

In bee-keeping, as well as in any other business, prosperity comes only in husbanding what we already have, and being careful of the outgoes. Foundation is good in its place; but the sheet-anchor of bee-keeping is all straight worker comb; and if you have such, use them in place of having the bees build more, or of buying foundation.—*Gleanings* (American).

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., &c.

L'Apicoltore (Italy) and *Revue Universelle D'Apiculture* (Rhone Valley). Bee-keeping in the Transvaal.—A correspondent of the *Deutsche Imker aus Böhmen* gives the following interesting information:—The indigenous Kaffir tribes who use honey as food, as medicine, and in their religious rites have cultivated bees for a very long time, as also have the European colonists. The pure Italian bee prospers in this part of Africa and is said to be free from the diseases prevalent among other varieties, which diseases are reported to proceed from the English colony of Natal and to be caused by the use of syrup made from cane sugar. [This will be "news" to B.J. readers.—EDS.]

The climate of the Transvaal is very favorable to bees. The winter months are June, July, and August, during which time there are short but sharp frosts; during the other nine months the country is covered with flowering trees and plants, chiefly acacias and rhododendrons, which yield honey in abundance. The first and principal harvest is from the acacias and orange flowers. Unfortunately the eucalyptus blooms almost at the same time, and its peculiar flavour often deteriorates from the goodness of the otherwise excellent honey of the first gathering. Immediately after the spring harvest comes the swarming time, which demands the greatest vigilance on the part of the bee-keeper. Generally it suffices to remove the queen-cells to prevent swarming; sometimes it is needful to weaken the colony by removing bees or sealed brood. If swarming be allowed it interferes with the second harvest, which follows immediately, as the bees occupied with preparations for swarming lose much of their activity.

The peach and European fruit-trees furnish the second harvest. This honey has little aroma; but that of the third gathering, on the contrary, yielded by late-flowering heaths and other woody plants, has a very decided aroma. The Italian colonies, treated with varying consideration by the Boers, produce annually from 60 lb. to 80 lb. of honey. Under experienced and careful management they would easily yield 100 lb. per hive.

During winter the bees often suffer from the attacks of a small and very beautiful bird of the finch tribe, which catches them singly as they leave the hive.

When melting combs for wax, the solar wax-extractor is invariably used, with considerable success.

The wild bees which nest in hollow trees and sometimes even in the ground, produce but little honey. This is supposed to be caused by their very short tongue. The cross of this bee with the Cyprian results in a very ill-tempered variety. Crossing the bees with the view of securing a variety with a longer tongue has become a kind of mania, especially in Cape Colony, where in offering bees for sale, the length in millimetre is given of their tongue. European tradesmen have sought to take advantage of the great consumption of honey in East Africa, and we see quantities of "Table honey," "Swiss honey," and other artificial products on the markets. The Transvaal and Orange Free State Governments have, however, prohibited under severe penalties the sale of anything not the natural product of the bee under the name of honey. Syrups may be sold as such so long as they are not called honey.

L'apicoltore (Italy).—A girl in Switzerland suffering severely from poverty of blood could get no relief through medicine; at last she tried a honey cure, which restored her to permanent health in rather more than a month. The treatment was as follows:—Morning and evening honey dissolved in hot milk; honey water *ad libitum*. Honey taken during the day in all about 2 lb. each week.

Leipziger Bienen-Zeitung.—A charge of adulteration of honey was recently brought before the authorities in Cologne. Wilhelm

Jägersberg, a wholesale dealer, being sentenced to a fine of £50, his wife to £15, and the auctioneer who had been selling the so-called honey to £1 and six weeks' imprisonment. Jägersberg had carried on a large business, supplying a great number of tradesmen under a guarantee of pure honey. During the years 1898 and 1899 he had disposed of 67,397 lb. of manufactured honey, consisting of 80 per cent. syrup and 20 per cent. honey.

In a village in Upper Austria a farmer who during April last had lost a hive of bees received the following letter a few days later:—"The hive which we stole last Sunday stands in the meadow where the old hut used to be. You can fetch it from there. We are sorry to say we have eaten the honey; it was very good. We shall certainly never take another hive, you may be sure, for the bees stung like fiends. That bit of honey was hard earned. Lest you should suspect any one else, we sign ourselves, JOSEPH and MATHEW HONEY-GLUTTON."

Le Rucher Belge (Belgium).—It has been suggested that the larger producers of honey should co-operate and form an association for the special purpose of extending the sale of honey to the public without the assistance of the middleman. The association would keep a register of the names of honey producers, and would thus be able to afford the buying public all information on the subject, thus bringing buyer and seller together. Through advertising, some good might, no doubt, result.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. D. P. (South Norwood).—*Spring Dwindling.*—Seeing that the stock was made up from driven bees, it is not easy to account for the rapid dwindling noticed during the past few weeks. Had we been furnished with the past history of the skep from which the bees were driven, the case would be very different; but the bees may have had an old queen and be mainly old themselves; hence that spring dwindling noticed. If a piece of comb containing dead larvæ were sent, we could decide as to foul brood, but not otherwise. We should not destroy the bees on the off-chance of their being diseased.

"COLABA" (Newton Abbot).—*Brace-combs above Frames.*—1. In third line of reply to query 2370 (page 159) the "bee space" referred to should have been printed "$\frac{1}{4}$ in. between glass and the frame-tops"; $3\frac{1}{4}$ in. is a printer's error. Many thanks for calling attention to the mistake. 2. We can only explain the brace-combs in this single case by repeating the adage, "Bees do nothing invariably."

R. W. (Crewe).—*Clipping Queen's Wings.*—The usual thing is to remove about two-thirds of one wing. The object is, of course, to so impede the flight of the queen as to cause her to fall to the ground when attempting to accompany the swarm.

M. B. (Wilts).—*Queen-rearing.*—There is no book we know of on the subject of "queen-rearing on simple lines." Such works as are specially devoted to this branch of apiculture treat of queen-rearing on scientific principles only.

"CONSTANT READER," (Mountsorrel).—*Bee Parasites.*—The parasite described is no doubt the *Braula cœca*, or blind louse. You will find dozens of references to it in past issues of B.B.J. Though troublesome at times, the parasite makes no headway in this country, and is, therefore, never so damaging as to cause "stocks to die out," as you suppose. Smoking with tobacco will cause them to fall on floorboard, when they may be brushed off outside the hive. Some bee-keepers pick the insects from the bodies of bees with a pair of tweezers.

"WREKIN" (Wellington). — *Varieties of Heather.*—Sample sent is the real honey-plant, *Calluna vulgaris*, or ling.

J. P. DOUGLAS (Cockermouth).—*Willow Catkin.*—The bloom on sprig sent is the male catkins of the willow commonly known as the flowering palm. We cannot give the exact botanical name unless a leafed twig is sent.

J. C. (Lanarkshire).—*Fixing Comb-foundation in Glass Supers.*—Some bee-keepers warm the glass sufficiently to melt the edge of foundation when the latter is laid on the glass. Of course, a rack is made to keep the strips of foundation in an upright position till the wax cools. Others use liquid gum—and sometimes transparent glue—for the purpose. This particular operation is one in which more depends on the nattiness of the bee-keeper himself for success than on any given directions.

TRADE CATALOGUES RECEIVED.

E. C. WALTON, *Muskham, Newark.*—The new catalogue of bee-keeping appliances of the above old-established firm is but one of several comprehensive lists issued by them, the one before us being notable for the very moderate figure at which the goods are priced. This is, we understand, largely accounted for by the labour-saving appliances required for the extensive trade done in portable buildings of all kinds, varying in value from a poultry-house at 15s. to building a greenhouse listed at nearly £300. They seem to do a very large and satisfactory trade, judged by the list of "testimonials," which latter alone fill over twenty pages.

Editorial, Notices, &c.

IRISH BEE-KEEPERS' ASSOCIATION.

PRESENTATION OF HONEY TO THE QUEEN.

At the March monthly meeting of the committee of the I.B.K.A. the following resolution was passed unanimously:—"The Irish Bee-keepers' Association tender their loyal welcome to her Majesty on her approaching visit to Ireland, and desire to present a sample of the industry for her Majesty's gracious acceptance." The resolution was communicated to his Excellency the Lord Lieutenant to lay before her Majesty; and a reply was received through Sir Arthur Bigge that her Majesty would be pleased to accept the present of honey without an address.

A box of one dozen sections of honey from the four provinces of Ireland was accordingly taken to the Viceregal Lodge for her Majesty in the carriage of Lord Ardilaun, President of the I.B.K.A., and the following gracious acknowledgment was received by the Hon. Sec.:—

"Viceregal Lodge, Dublin.

"Sir Arthur Bigge is desired to convey to the Irish Bee-keepers' Association the thanks of the Queen for the beautiful specimen of honey which they have been kind enough to offer for her Majesty's acceptance."

The box containing the honey was specially made of Irish bog oak by Messrs. Abbott Bros., of 23, Merchants' Quay, with glass sides, and bore on the lid the letters V.R. in a silver shamrock pattern. A card beautifully illuminated in Irish lettering by Mr. Herbert Cooper, of Molesworth-street, accompanied the honey with the inscription:—"Presented to her Most Gracious Majesty Queen Victoria, Empress of India, by the Irish Bee-keepers' Association. Honey from the Four Provinces of Ireland. April, 1900."

The honey, considering the time of year, reflected great credit on the producers, being in excellent condition.

ANNUAL MEETING.

The annual general meeting of the above Association was held on April 19 in Dr. Traill's rooms, Trinity College, Dublin, Dr. Traill in the chair.

The minutes of the last general meeting having been read and confirmed, the report and balance-sheet for the year 1899 was received and adopted, with a vote of thanks to the auditors. A vote of thanks was unanimously accorded to Dr. Traill for the gratuitous use of his rooms for the meetings of the Association. Lord Ardilaun was re-elected President, and the following were re-elected Vice-Presidents:—The Countess of Aberdeen, the Earl of Rosse, K.P., Miss Rutherfoord, Rev. Canon Proctor, Hon. Richd. Bellew, W. J. Bramley, Esq., A. Traill, LL.D., M.D., and H. Chenevix, Esq., J.P., who for the last thirteen years has acted as Hon. Sec., was unanimously elected a Vice-President. The scrutiny of voting papers resulted in the following being elected to form the acting Committee for 1900 to 1901: J. A. Abbott, Esq., J. A. Aiken, Esq., Wm. A. Clandillon, Esq., W. J. Delap, Esq., Rev. J. G. Digges, M. J. Doherty, Esq., E. B. Drought, Esq., J. M. Gillies, Esq., Herbert Jenkins, Esq., Rev. W. Kane, Rev. P. Kavanagh, C.E., Captain J. K. Millner, T. B. O'Bryen, Esq., J. P. O'Flahertie, Esq., J.P., George Watson, Esq. M. H. Read, Esq., was appointed Hon. Treasurer and Hon. Secretary. W. J. Delap, Esq., and Herbert Jenkins, Esq., were appointed auditors.

It was considered that the notice given to members of the proposed presentation to Mr. Chenevix was too short to allow time to members wishing to contribute. The Committee were accordingly instructed to make the presentation at their next monthly meeting.—M. H. READ, *Hon. Sec.*

NORTH NORFOLK B.K.A.

ANNUAL MEETING.

The annual meeting of the North Norfolk Bee-keepers' Association was held in the Parish Room, Briston, on March 15. Mr. C. J. Cooke, hon. secretary and expert to the Association, read the report, which stated that the membership for the past year was the same as the previous one, viz., seventy-four. An important feature in the year's work was the purchase of a bee-tent. This was considered necessary for the efficient staging of exhibits of honey at the Melton Constable show, and the encouragement thereby to learners in bee-culture. The help given to the Association by the president, Lady Hastings, was much appreciated, and the committee trusted she would be able to retain the position during the coming year. The expert's report showed a very satisfactory state of efficiency in the bee colonies of the members of the Association. The balance-sheet showed a deficit of £1 7s. 10d., as against £1 11s. 4d. of the previous year.

The Association was primarily started for the encouragement, improvement, and advancement of bee-culture, particularly as a means of bettering the condition of agricultural and labouring classes, and the committee would gladly welcome any recruit in this most desirable and lucrative employment.

Votes of thanks were unanimously passed to Lady Hastings and Mr. Justice Cozens-Hardy, who have acted as president and vice-president during the past year. The hon. secretary and expert was cordially thanked for his services during the year, and a very satisfactory meeting concluded with a vote of thanks to Mr. T. Roberts for the use of the room.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

STINGLESS BEES.

[3961.] The notes on the habits of the Central American *Melipona*, quoted by Mr. Till in your issue of April 19 (page 157), are very interesting.

These so-called stingless bees are remarkable for their small size (with one or two exceptions), and for the strange nervation of their wings; and this last peculiarity at once separates them from all the known species of bees, either solitary or social. They are specially interesting to the bee-keeper, because they live in populous colonies like the honey-bees, and are, in fact, closely related to them. They are widely distributed in the warmer parts of the world. My own collection contains seventeen species, of which two are from India, one from Africa, and the rest from Central and South America. They also occur in Australia. There are probably altogether hundreds of species, and very little is known about their habits.

The Indian species are very small and are called "mosquito-bees" or "dammar-bees." I found a nest of *M. laeviceps*, Sm., in a dead branch of a shrub in a jungle near Colombo, but was prevented from taking it by the interference of two tipsy natives. Another nest was found by some native boys, who ate the brood and honey with great relish. I also saw a number of workers of this species passing in and out of a chink in a brick wall at a railway station.

Dr. H. Stadelmann, in a very interesting paper, "Beitrage zur Kentniss der Gattung *Melipona*," gives some useful information about these bees.

He considers that the three genera, *Melipona*, *Trigona*, and *Tetragona* should be included in one genus under the name of *Melipona*. He gives an illustrated description of a nest of *Melipona togoënsis*, Stadelm., found at Bismarckburg, in Togo (Upper Guinea).

The nest was in a hollow branch of a tree. It consisted of three parts (1) the nest proper, with the brood-combs; (2) the pollen and honey-pots; and (3) the entrance-hole and passage. The nest proper was 24 cm. long. In shape and structure it was apparently very similar to an ordinary wasp's nest, for there were twelve horizontal slabs of comb, of which the middle one was the largest, and the cells were constructed on one side only of the comb. The combs were connected to one another by pillar-like supports, the whole being encircled by a paper covering. The material was not, however, the familiar grey "papier maché" of the wasp, but a dark brown kind of wax. The cells were circular or irregularly hexagonal, not regularly hexagonal as in the comb of the honey-bee.

The honey-pots, which occurred in a separate part of the nest, were egg-shaped and of a much larger size than the brood-cells. They were used for the storage of honey and pollen. Dr. Stadelmann thinks that certain cavities or pockets in the covering of the nest proper are also used for the storage of honey, as with some South American species. The honey, when the nest was discovered, is described as "a thin, yellow, strongly aromatic liquid." On arrival in Berlin it was dark brown and of a thick consistency, the aromatic flavour was hardly noticeable, and, though sweet, it left an unpleasant, rancid after-taste. The wax contained a large amount of resinous and ethery matter, which was separated on treatment with chloroform.

The entrance passage was of considerable length, and was lined with a hard kind of black wax, in the composition of which a substance similar to our bees propolis seemed to be the chief ingredient. The Indian species also coat their entrance passage with a kind of hard black wax, which sometimes projects from the hole in the tree for a foot or more. The newly-hatched workers were of a transparent brown colour, which gradually grew darker as they matured. The abdomen darkened first, then the head, and finally the breast and legs. The wings were at first quite transparent. In time, however, they become cloudy, and acquired a beautiful iridescence when seen in certain lights.

Dr. Stadelmann thinks that attention should be given to the domestication of these bees.

Horne (in the "Transactions of the Zoological Society") says that the cells of *M. ruficornis* Sm., an Indian species, contain a dark honey of excellent flavour.

In reviewing the field for the domestication of new kinds of bees we find that *Melipona* is not so closely related to the domestic honey-bee as one or two other bees that have not yet allowed themselves to be taken care of by man. Among these are the *Apis dorsata* Fab. and *A. florea* Fab. of India, which are true honey-bees, and consequently more likely to be useful than the *Meliponæ*.

The following is a list of the social bees (the only bees that live in colonies and lay up

a store of honey) grouped from a bee-keeping point of view.

1. *Apis mellifica.*—*Domesticated races,* such as the native black bee, the Italian, Carniolan, Cyprian, &c. Honey and wax articles of commerce.

2. *Apis mellifica.*—*Wild races,* such as the Himalaya bee, *Apis indica,* &c. (These can probably be domesticated.)

3. *Apis dorsata* and *florea.*—Wild species that build single combs in the open from limbs of trees, &c. (Undomesticated.) Wax of *A. dorsata* an article of commerce.

4. The genus *Melipona* in its broader sense. There are probably hundreds of species, mostly very small, but some of the South American ones are nearly as large as our honey-bees. Found only in hot countries. (Undomesticated.)

5. The genus *Bombus* (humble-bees).—Medium and large sized species, amounting to some hundreds, occurring only in temperate and cold countries. These bees are social only in the summer. (Undomesticated.)

What commercial advantages can we expect to result from the cultivation of the *Meliponæ?* Their wax is much inferior to that of the honey-bee; their honey is said to be good, but that of the honey-bee gathered from the same sources would probably be better and in more presentable condition. The smaller *Meliponæ* may, however, be able to creep down long narrow flower tubes, and obtain nectar from them which would be inaccessible to the ordinary honey-bee. In this country the nectar is gathered from these long-tubed flowers by the humble-bees by means of their long tongues, and they are the only bees that reap a good harvest of honey from the rich fields of red clover. No species of *Melipona* would stand the severity of an English winter; the humble-bee is, however, at home not only here but also far within the arctic circle where the summer lasts only a few weeks, and the honey-flow is too short and scanty even to maintain a colony of honey-bees throughout the year. Here the humble-bee flourishes, and if, as seems not unlikely, it ever becomes possible to cultivate some species of it, constant though small supplies of wild honey will be obtainable in places where nests are only accidentally found at present.—F. W. L. Sladen.

BEE NOTES FROM ESSEX.

DOING THE RIGHT THING AT THE RIGHT TIME.

[3962.] In bee-keeping our efforts throughout the whole year depend for their reward upon the results of the labour of the bees during about one month of the twelve. This fact makes it so much more necessary for those who follow our particular craft than in some other pursuits that we should not only do the right thing, but that we should do it at the right time and in the right way. The way in which we get through this important part of the work makes all the difference in our success or failure as bee-keepers. What a wealth of blossom there is upon the fruit trees just now, and how anxious the sight of this nectar-producing bloom makes the beginner to super his bees! Quite right, but is it yet time, and are the bees in the right condition for supering? With acres of blossom enough to gladden the heart of man by its brightness and purity, without thinking of the nectar secreted in the flowers, we have to consider that it is yet early for supering. How many stocks in the apiary may we expect to find in condition to receive supers and be able to occupy them? Very few. Most of them will be found not only short of readiness to receive and benefit by the supers being put on, but in a condition which makes the winter wraps still necessary, and helpful while the nights continue so cold. Provided a super is put on the right way and well wrapped up no harm can be done by supering a hive that is full of bees with seven or eight combs full of brood; but to super one with only, say, six or seven seams of bees and three combs of brood, just because there happens to be plenty of flowers near, is to deprive the colony of what it is most in need of, viz., warmth, which naturally passes upward from the body of the hive into the super. A stock to which surplus-room is given at the wrong time will yield about 20 lb. less honey than the same stock would yield if supered at the right time. Seeing, therefore, how careless many bee-keepers are about putting their supers on in the best possible way, and the equal carelessness for the comfort of the bees, the wonder is that they get as good returns as some do. I have seen supers put on and left with openings where both warmth and bees can escape into the roofs of the hives. Our editors are often told that "bees won't go into the supers," or are asked to answer the question, "Why is it that my bees are not occupying the super when the hive is crowded and there is honey to be gathered?"

I am not aware that bees suffer from stiff necks and ear ache, but they cannot and will not face a draught; and we know that a cold, draughty, and comfortless super is persistently refused by them until later on, when greatly increased numbers and hot weather make the super acceptable. It is, therefore, most important that the first super put on a hive in spring be made both warm and comfortable. Of almost equal importance is it that the last super in autumn be also kept warm, or the bees, slow to occupy the super in spring, will not be slow to desert it in autumn, and carry down its contents with them when cold nights begin to be felt.

I have had a look in at some of my best stocks, and am not only postponing supering for the present, but the winter wraps are still left on. A few bee-keepers I know of have given surplus room, but their bees will want a lot of food to make up for the reduced

temperature; while mine, on the contrary, can use the unwasted warmth for rearing ever-increasing numbers of young bees. We had twelve degrees of frost the other morning, and I felt sorry for bees and bee-keepers, but still more sorry for fruit-growers and farmers. Whole fields of young barley completely blighted, and beds of seedling plants destroyed by frost, which leaves ice at 8.30 in the morning at the end of April, must affect fruit-growers and farmers seriously.—W. Loveday, *Hatfield Heath, Harlow, Essex, April* 30.

DO CYPRIANS WINTER WELL?

[3963] In view of the recent letters in your pages regarding these bees, it may be of interest to say that I have just looked through a stock of Cyprians, the queen of which was imported from Mr. Dervishian very late in last season—in fact, she was introduced to her new subjects (native bees) on September 5. Nevertheless, the stock when packed for winter contained a large quantity of yellow bees. Now all black bees have disappeared, seven frames are covered with the Cyprians, one is quite full of sealed brood, and three others have in them brood in all stages. It has been an exceptionally cold spring here, with snow and frost. I pack my bees for winter very warmly, and leave plenty of natural stores. Italians, Carniolans, and natives have all come through well and strong. The Cyprians came out foraging on the first fine day, quite as lively and bright as any of the others. I have yet to see how they will pose as honey-gatherers—in quantity and quality.—C. A. P., *Co. Kerry, April* 24.

BUYING BEES.

INSURANCE TICKETS.

[3964.] The communication on "Buying Cheap Bees" (3951, page 156) in the Bee Journal of last week by Geo. Campbell, contains a very useful suggestion. I should be extremely pleased to see some such plan carried out, and as a seller of *cheap bees* would welcome any such idea as a reliable authority on the subject of foul brood.

Now, sir, there are four districts, Cambs, Yorkshire, Essex and Sussex, where two or more lots are offered for sale in B.B.J. of April 12.

I happen to be in one of the districts, and had obtained an order for six skeps of bees if I could supply them. However, I received a letter on Tuesday morning countermanding this order, and was referred to page 156 B.B.J. for the reason of so doing, the words added being, "It is evidently a Yorkshire district that is referred to."

This is grossly unfair on the writer's part, and through Mr. Geo. Campbell indirectly. Speaking for myself, I have only had one case of foul brood in my apiary. That was in a stock I bought at Swavesey, in Cambs, five years ago. On arrival home at Girton in Cambs, I examined it and at once burnt bees and hive, for which I had three hours before paid £1. I have never had foul brood since or before, and the stocks I have sold this year are all natural swarms of last year, or the stocks those swarms came from.

As for the districts named I know they may be very scattered. In my own case I am four miles from the other Yorkshire advertiser, and there is no foul brood here. The other places in other districts may be further apart.

If you decide to commence any such scheme as the one referred to you may rely upon my support.—A. Townsend, *Coneysthorpe, Malton, April* 24.

[3965.] I for one very strongly approve of the proposal regarding the issue of "insurance tickets" similar to the one suggested by your correspondent, George Campbell, in last week's B.J. (3951, page 156). As my income is chiefly derived from bees, I should be pleased to send out all the stocks that I supplied on combs with the aforesaid guarantee attached. It is never a good or satisfactory plan to "buy a pig in a poke," neither is it so to buy a stock of bees in a hive without knowing something of the man they are from; and purchasers who buy without this knowledge become discouraged, and have their enthusiasm in the craft damped through dealing with any but experienced men of good faith. If our editors could supply a form on application from the buyer (at the latter's cost, of course), say, for about 6d. each, to be sent on to the seller, I do not see why it should not be very beneficial indeed to all parties concerned, but especially to beginners who are wanting to purchase from strangers. Swarms, on the other hand, would have to be dealt with from another point of view. — G. Spearman, *Colesbourne, Andoversford, April* 28.

(*Correspondence continued on page* 176.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The interesting particulars furnished by Mr. Nightingale—whose apiary is shown on opposite page—afford a useful lesson in the way of "how to start bee-keeping;" for whether success follows or not, there can be no more business-like way of beginning than is supplied in the details sent at our request as follows:—

"I happened to be staying at Mr. Cotteril's Hydro., Bowden, Cheshire, in the month of March, 1892, and getting quite interested in this veteran's bee-keeping and bee-talks—besides, at the time, both hearing and seeing something of that which has proved to be so full of interest and pleasure, *i.e.*, bee-keeping—you will not be surprised to learn that before leaving two hives of my new-made little friends had been selected to accompany me

back to Shrewsbury. I must admit feeling a little nervous at having such lively luggage, but Mr. C. gave full instructions how to handle, &c., and so without the slightest difficulty I arrived safely home with my charge. After placing them in position and waiting a short time, I (veiled and gloved, of course) removed the perforated zinc from the entrances, my pleasure being great in seeing the bees fly out and around.

"My future course of action was now to be considered—How best to learn their management? I had already bought one or two good bee books, but though their information was most valuable, I needed to know and see in what manner the little workers did what the books said they did. I therefore decided to leave one hive alone as much as possible while using the other for my own tuition, and not expect much surplus honey; thus I was enabled to overhaul it and learn the practical part of the bee-keeping in some measure. I was advised, both by a bee-keeping friend and also by the B.B.J. and *Record*, to keep as much as possible to one class of hive. I now see the wisdom of this for ensuring the free interchanging lifts and supers.

"Thus my start was made, and to-day I have twenty-three hives. My apiary is divided into two parts; the hives seen in the picture are alongside the house and close to the path which is most used by people coming to the house. I have never known any one to be stung, and mention this as some folks think bees must be kept in corners where people seldom go. The other part of my apiary is in another garden, and there I have also a bee-house, which would hold about forty stocks. I find it nice to work in, and it holds many bee-appliances, locks up, and there is no fear of damage from wind or rain. The hives in this house are all made from grocers' packing-cases, all being fitted with standard frames, &c. I really wonder more people do not go in for bee-houses, they are so convenient.

"My bees have given me very much pleasure, and the more one gets to know about them the more interesting they become and also the more profitable; for though we live in the suburbs of the town, and not away in the country, I am sure my bees have far more than paid their way, though, of course, there is plenty of work to do before the honey is bottled and sold. I work entirely for extracted honey, and bottle it in 1-lb., ½-lb., and ¼-lb. bottles, for which I obtain 1s., 6d., and 3d. respectively. I find that for sending bottles of honey by rail cardboard boxes, neatly labelled, and lined with corrugated paper, then carefully packed in a wooden box, enclosing in each cardboard box a small printed paper with a few words about honey, is the best way of marketing with me. Having a little printing-press I can print my own labels, &c.

"I am growing fonder of the bees every

MR. ALFRED NIGHTINGALE'S APIARY, SHREWSBURY, SALOP.

year and find much pleasure in working amongst them, learning many lessons of God's wonderful ways even in the lives of these little creatures, and I often get comfort from the knowledge that He whose wisdom enters into the life of even so tiny a thing as a bee enters in a still more wonderful manner into every detail of the lives of mankind."

CORRESPONDENCE.

(*Continued from page* 174.)

BUYING STOCKS OF BEES

NOT ALWAYS A FAILURE.

[3966.] To-day I examined three hives for a man who bought them in November without examining them at the time and had never opened the hives since. No. 1. I found contained fourteen bar-frames, eight with brood in combs, while four were full of candied honey; quilts damp and dirty, with holes through them. Some combs were also built in the roof, and these contained candied honey and pollen. I removed the frames into a clean hive and renewed the quilts. No. 2 (a sixteen-frame hive) had a section-rack on with a piece of sacking thrown over it. The bees had refused to work in the sections, but had built combs across the roof above the section-rack. These combs contained 5 lb. or 6 lb. of honey. The combs in body-box are built across the frames, some combs being attached to no less than seven of them. The bees being strong, I decided to leave these till autumn, then put bees into other combs, saving whatever brood there is. No. 3 also had a section-rack on. In this twenty-one sections had been filled, but are now partly emptied. The body-box contained eleven frames, all with honey in them, several frames with brood, and drones already hatched, but no sign of queen-cells. I took off the section-rack and added some frames to fill the hive, also putting new quilts. As some correspondents complain of the weakness of bought stocks, I thought you would be interested in these. They were not obtained of an expert, but of a farmer whose "bee-man" had left his service.—W. J. Belderson, *Terrington, Norfolk, April* 30.

"NOVELTIES FOR 1900."

SHALLOW-FRAMES BELOW BROOD-NESTS.

[3967.] With regard to my hive shown on page 158 of B.B.J., I beg to point out that a shallow-chamber under brood-nest containing a drawer holding shallow-frames which is made to pull out at the back, has been made and used by me since the spring of 1894, when Mr. Ford gave me the drawings and asked to have them worked out and hives made from them. Previous to that date shallow-chambers had been used under brood-nest, but, I believe, not with a sliding drawer. Nor have I any doubt it was from my hive and drawings that the idea of the sliding drawer was copied. Again, my "Wells" hives have been made since the same year with the upper shallow-body, containing shallow-frames and fitted with porches and entrances to be placed under brood-nest; so that this hive has a double set of porches and entrances if required to be used, as illustrated in our catalogue for years past. Again, my ten-frame hives have been illustrated for the last five years with a chamber under brood-nest, as B.B.J. readers can see who have old catalogues by them; and a glance at the illustrations will verify my statements. With regard to the entrance being between the bodies, this again is not new, as I have had for years, and still have, hives in my apiary with entrances both below and between the bodies. I have no doubt there are readers of the B.B.J. who have hives with entrances between the bodies as described.—E. H. Taylor, *Welwyn, Herts.*

[3968.]—Referring to the "Novelties (?) for 1900," we bee-appliance makers are, I thankfully believe, a very friendly lot of people, and if we try sometimes to steal a march on each other, it is done in quite a jocular spirit probably, for "all's fair in love and war." But, you see, Mr. Taylor has produced a hive and given it a name, and Mr. Meadows has hit on the same idea, and I myself showed at Birkenhead last year a new hive, almost exactly on the same plan. I also christened it "The New Century Hive," under which name it is described in my list for 1900. I know one or two other makers who for years past have had hives on sale of something the same pattern and idea.

Friends Taylor and Lee being so close to the meeting-place of the British B.K.A. do rather get an easy lead over their more northern brethren in some of these matters certainly, but probably your readers can gauge these things pretty cutely, and know there is not room for very great differences in bee-hives, and the good old "W.B.C." takes a deal of beating yet.—George Rose, *Liverpool.*

TITS AND BEES.

[3969.] In view of the correspondence which has appeared in the B.J. on the question, "Are Tits the Enemies of Bees?" I attach a cutting taken from a recent issue of a local paper, which may probably be of interest to some of your numerous readers.—Wm. Russell West, *Northenden, April* 30:—

"A bird's nest has been found in the middle of an occupied bee-hive. A pair of great tits, near Ludlow, last spring, built their nest and laid twelve eggs in a vacant space among the combs of a large bee-hive, with the swarm in full swing of honey gathering upon all sides of them. So a correspondent of the *Zoologist*

tells us. Both birds and bees went in and out by the same entrance hole, and neither seemed to object in the least to the presence of the other, as the bees were making honey fast; and when the hive was opened twelve eggs were found in the nest. This adds another to the list of strange lodgers in animal communities, headed by the owl and the rattlesnake in the burrows of the prairie dogs, and the alleged 'pet' beetles in the nest of ants."—*Outlook.*

CYPRIAN BEES.

[3970.] I have a very strong recollection that the late Mr. C. N. Abbott, and also the late Mr. Walter Marshall, told me when I asked about Cyprian bees that they were a "vile lot," so vicious and persistent, even following them indoors and getting into their trousers, or anywhere where they could possibly inflict a sting. Are they any better nowadays?—JOHN WALTON, *Weston, Leamington, April* 28.

SELLING HONEY IN DEVON.

A correspondent who was interested in the question raised in "Useful Hints" (page 152 of B.J. for April 12) says:—"As a corollary to the honey-selling question the following cutting from the *Western Mercury* of March 28 might form a useful item in the discussion."

SIR,—I have not had the privilege of reading "the misleading report of the Cornwall B.K.A.," referred to by "Buzz" in your to-day's issue, but in regard to the latter's experience regarding selling of honey I should certainly say there must be something wrong in the method of marketing. The price obtained at the markets round about here is invariably quoted in the papers as 1s. per lb. I cannot say I get as much, but I have not the least difficulty in getting 10d., and in quantities for selling again 9d., the buyer fetching same from my place.

At these prices the produce of my apiary, which in truth I cannot say is a large one, was all sold before Christmas, and I could easily have sold twice the quantity. The year before I had upwards of 300 1-lb. sections, and then could have sold more. Last year I did not do near so well in sections, but had plenty of run and extracted honey. My point is: Bee-keeping does pay, and that well; and if the produce is turned out in a marketable manner there is no difficulty in selling it.—BEE-KEEPER, *near Totnes, March* 27.

EARLY SWARMS.

A correspondent sends us a cutting from the *Western Morning News*, according to which a hive of bees belonging to Mr. Thos. Searle, station-master at Ivybridge, Devon, sent out a strong swarm on Monday, April 23. This is reported by some experts to be the earliest swarm on record for Devon, and Mr. Searle's new swarm is said to be "quite healthy and strong." A second cutting from the same paper received to-day (April 27), however, states that Mr. Chas. Benhaligow, of Lanoose, Gerrans, Devon, had three swarms on Sunday, April 22, a day earlier than the one reported above. Two years ago Mr. Head, of Ivybridge, a B.B.J. reader, was supposed to have had the earliest swarm known of in Devon, but his was later than the above.

We have since had forwarded a report from Bucks, which says:—"At Tylers Green, on April 22, a swarm of bees belonging to Mr. Richard Lacey came out and were hived. This happened suddenly, as a short time before there was no sign of swarming, and the early date certainly led to no such expectation. The bees are still in their new hive."

SAFE INTRODUCTION OF QUEENS.

BUILDING UP WEAK COLONIES.

Safe introduction of queens is one of the most important manipulations in apiculture. Upon it depends the improvement of stock (which is all important), and upon it depends the queen-breeder's business almost entirely. If a plan of introduction could be found that would always guarantee safe introduction of queens, it would perhaps help as much as anything else to make the apiarist master of his trade.

A number of plans of introducing queens have been given to the public in the past, all, or nearly all, of which have been successful in a measure, but it seems that no plan yet introduced is always successful. I have used every plan that I have ever seen recommended, and have had good success with some, yet I have sometimes failed with all; but the plan which I now use has never failed, no matter what the conditions of the bees were. I got the idea from Mr. Doolittle's "Scientific Queen Rearing," only I carried it a little farther. The plan is as follows:—

Go to the hive to which you wish to introduce a queen, take out the present queen, smoke gently and jar the hive until the bees have filled themselves with honey; then shake about half the bees into a box 15 in. square, with wire-cloth sides; set the box away in some cool place until the bees mourn for a queen, which can be told by the bees hurrying around the box in every direction, as if greatly excited. Then introduce the queen by dropping her in at the top; the bees will at once accept her, and form a cluster. Let them remain so for some time, then shake them in front of the hive whence they came, and let the queen and bees run in, smoking the hive gently.

I have introduced queens by this method at a time when there was no honey-flow, and queens not laying, and have never yet had a failure. Queens coming a distance, when

treated thus, will lay sooner than by the caging plan, and are not so liable to be superseded.

I treat laying workers in the same way, only the bees used are taken from some strong colony, care being taken to get as many young bees as possible, and a queen that is laying. Smoke the hive containing the laying workers thoroughly, and run in the bees and queen, and the work is done. Bees treated thus will stay anywhere. It might be well to add that the best time to take the bees out is in the morning, and run them in in the evening.

This is also the best plan I have ever tried to build up weak colonies: Take one or two quarts of bees from some hive that can spare them, cage them for eight or nine hours, then run them into the weak colony, giving a frame or two of brood at the same time, and the effect will be magical. A weak colony will be turned into a strong one almost at once. I believe it a wrong idea to overburden a weak colony with brood, as it does not give them a good chance to defend themselves. They should have bees as well as brood. If there is any quarrelling (which there will not be once in a hundred times) give tobacco-smoke until you quell the riot.—C. T. BONNEY, in *American Bee Journal*.

Queries and Replies.

[2377.] *Drone-breeding Queen in April.*—1. I should be much obliged if you will tell me what you think of enclosed bee? I found it in a stock of hybrids the other day. There was no sign of eggs, so I concluded it was queenless, although the bees had been carrying in pollen and had stored a little honey. I had not time to see if there were any more bees like the one sent, or if the queen really was there. I transferred a comb with brood and eggs from another hive to it, supposing that there would be drones flying in time to fertilise the queen if they raise one. 2. Did I do right? 3. I saw drones in a neighbour's hive three weeks ago, and a nice lot of worker-brood. Is not this early?—ALEC ASHBY, *Faygate, Sussex, April* 27.

REPLY.—1. The bee received is an undersized drone, suspiciously like the offspring of an unfertilised queen or of a fertile worker. 2. Giving a comb with brood and eggs was quite right, but you will need to examine the comb given to ascertain what result has followed, and be guided accordingly. 3. The end of April cannot be called unusually early for Sussex though in the present backward season it is fairly so.

[2378.] *Foul Brood in Triple Hive.*—Enclosed herewith is a piece of comb, cut to-day from a frame in one of my hives. Judging from the description in "Guide Book," it seems to be a case of foul brood. The stock was made up from driven bees last autumn and fed on sugar syrup, as per "Guide." They are in a hive I made on the "Wells" principle, but to hold three stocks. The suspected bees are in the middle compartment; they took down a good quantity of stores for winter, but to-day I find there are only a few bees left, and no queen. The middle frame from which sample is cut has a little food still, as also has the one next it; a lot of pollen, no brood—dead or alive, three other combs partly filled with capped stores. The three stocks are divided by movable perforated dummy boards; the one next this on the left is doing well, having already two frames nearly full both sides with capped brood; the one on the right is scarcely so strong, but has one frame about one-third full each side of brood and eggs. As a precautionary measure, I am medicating all syrup, with which I am now feeding, with naphthol beta.—W. T., *Somerset*.

REPLY.—Comb is affected with foul brood. In view of the account given regarding the deceased stock's present condition, we advise destruction of bees, frames, and combs by burning the whole without delay. It will also need care to guard the other colonies, under same roof, from infection by using preventives.

[2379.] *Using Combs containing Dead Bees.*—Can you kindly inform me: 1. If I put into a strong colony of bees a few combs containing a number of dead bees which perished from want of food during the past winter, and which I am unable to get out of the combs, whether the colony in which I propose to place the combs would be able to get out the dead bees and utilise the combs? 2. Several of the combs taken from the dead bees have also a white-looking substance, which looks like fungus or mildew in the cells. Could these combs be used in the same way, or are they useless?—W. F., *Cheltenham, April* 23.

REPLY.—1. Bees will certainly manage to remove dead bees from combs, if given as stated, but how they do it has always been a mystery to us; and it must involve so much time and labour that it is doubtful economy to impose the task upon them if the great majority of the cells are so occupied. 2. The "white-looking" substance is mildewed pollen (which will be hard), and the above remarks apply equally to it. It therefore depends upon the extent of the mischief whether the combs should be used again or melted down for wax.

[2380.] *Working for Honey Without Increase.*—A bee-keeper of twelve months' experience seeks your advice on the following will be esteemed:—I have two hives, which we will call A and B. A (the parent stock) is strong, covering seven frames well just now. B is swarm from A, which issued on July 3 (heather district), and has wintered well. The bees in B will cover completely about four and

a half frames, of which there are seven now in the hive. Both stocks healthy and actively breeding. My main object for coming season is to secure the largest quantity of early surplus honey. I desire no increase in stock artificially, and wish to prevent the issue of swarms. My questions, therefore, are:—1. If I about midday, when the bees are flying freely, transpose the hives by placing A on B stand, and *vice versâ*, would that operation lead to equalise stocks a little, and is it practical without causing trouble among the bees? 2. Is it advisable to unite B with A and make one stock, and have the hive B made ready for chance in case the united colony did swarm? 3. Or is it my best course to leave each hive as it is? I want early honey and heather honey.

REPLY.—If honey is coming in freely, it is safe to transpose hives—in the middle of a fine day—so far as regards causing trouble among the bees. In your case, however, it will be bad policy to put any check on the more prosperous colony by robbing it of bees when early honey is the object. Bear in mind that the parent hive (now headed by a young queen) is the one to rely on for a good harvest, if not tampered with. 2. By no means advisable. 3. Leave the stock to do its best, and use every means to prevent swarming by giving room and ventilation.

[2381.] *Uniting Swarms to Stocks.*—I should consider it a kindness if you could inform me if a swarm likely to come out in a month or two can be joined to a colony previously established and working in a frame hive? My idea would be to increase and reinforce any colony that I might judge weak by adding to it a swarm issuing from a stronger stock; a swarm from a skep or straw hive that can be got for the taking of. It might be used with the same object if thought desirable. I therefore ask, What would be the best way to go about it? Your advice will greatly oblige a constant reader of the BRITISH BEE JOURNAL.—Y. DE MOIDREY, *près Pontorson, Manche, France, April* 22.

REPLY.—It is always a risky operation to join swarms to established stocks, and we do not advise your trying it. By far the better and safer plan—if a large harvest is desired—is to unite two or more swarms, and thus make up a very strong colony.

[2382.] *Honey gathered in April*, 1900.—I send you per post a small sample of honey, and shall be much pleased if you will give your valuable opinion as to its merits and the source from which it was gathered. I took it off one of my hives on Saturday, April 28, most of it being sealed over. The willow, arabis, and gooseberry are the only sources on which I have seen the bees working so far this season.—BRIDGEFIELD, *Carmarthenshire, April* 30.

REPLY.—Yours is the first honey of 1900 we have sampled, and it is very good indeed for the season—colour, flavour, and consistency being all good. We judge it to be mainly from gooseberry-bloom.

[2383.] *Honey from Infected Hives.*—I find one of my hives to be infected with foul brood, and have burnt the combs and frames which contained brood, &c., after smoking the bees with sulphur. The two outside frames, however, are full of honey. Would you kindly say if the honey in these frames would be of any use, either for bee-food or private consumption?—H. C., *Isleworth.*

REPLY.—Honey from infected hives is entirely inocuous to human beings, and may be freely used for the table. It must, however, on no account be used as bee-food.

Echoes from the Hives.

Honey Cott, Weston, Leamington, April 28.—The weather here during March and first week or two of April has been very rough, cold, and wet, with only a few nice days in which bees could get out for water and pollen. About ten or twelve days ago, however, the scene has changed very much for the better, the magician (spring) having stretched out his wand, and, lo and behold! all nature has awakened with a rush. The plums, peas, dandelions, gooseberries, currants, &c., are all in full bloom, and the bees are revelling to their hearts' content; and if this nice weather will but continue (although for a night or two we have had frost) we may hope to have a good honey season.—JOHN WALTON.

Terrington, St. Clements, Norfolk, April 30.—The past week has been a busy one with bees flying every day. I have not done my spring cleaning yet, the wind being too cold when an opportunity offered. A friend who is growing hyacinths in quantity has solved the difficulty of their successful propagation, and, as a bee-keeper, I certainly wish him every success, for my bees have been busy early and late on his hyacinths. We are looking forward to a good time. I am told there have been several acres of white mustard sown here. The plum and pear trees are affording work for bees now.—W. J. BELDERSON.

SOME APIARIAN SUGGESTIONS.

To one contemplating bee-keeping I would say, before you commence actual practice—say during the winter—procure some good work on the subject and study it thoroughly. Make a plan of your bee-yard and mark the places for your hives and number them. With this diagram before you, open your book of instructions and commence manipulating your

imaginary hives according to the directions given, noting what has been done with each hive. Thus will be fixed in the mind the different operations, so that when the actual practice begins you will not feel the degree of embarrassment which you might otherwise experience in an emergency.

In the meantime, subscribe for some good apicultural journal—more than one would be better. Then, in the spring, you are ready to take care of two to ten colonies of bees, with plenty of leisure for other pursuits.

Adopt standard appliances—hives, supers, cases, frames, sections, &c.—always keeping in mind your particular locality and its needs. To do this your eyes and ears must be quick to catch every important matter pertaining to your business; then, if you have a reasonably good field for operations and are a live, wide-awake person, as above indicated, you will meet with a fair measure of success.

Let *fads* alone, until those who make it a business to experiment have tested and proved their efficiency. I am not opposed to those who are experimenting along those lines, for many of our very valuable improvements have been dubbed *fads*, and have met much opposition and ridicule. But the beginner in any enterprise should feel his way carefully, if he would escape the pitfalls that lie concealed along his pathway.

Apiculture—if I may be allowed to digress—in its full significance includes both science and art, and, to some extent, might be taught in our schools of technology. It is as much a distinct branch of business as horticulture, floriculture, or any other speciality in rural pursuits, and can only be carried on, like the others, successfully by the specialist; therefore it is not adapted to the ordinary or average farmer, so many of whom conduct their farm operations in a loose, slipshod manner.

Do not understand me as meaning that farmers should not be bee-keepers, for among the rural population is the proper place for the pursuit, but persons should be trained for it, and many farmers are experts, but unless one intends to study the business thoroughly, and do his work in the best manner, keeping his bees healthy, and everything neat and clean, he should let it severely alone, or he will sooner or later meet with disaster, and spread disease and death among the apiaries of the surrounding country.

To emphasise what I wish to convey, let me give one illustration only among many which might be given, viz.: While talking with a man from the country not long ago about bees, he said: "A neighbour has eighteen or twenty colonies. He started with two Italian colonies, which he bought in movable frame-hives, but concluded he could not afford to buy such hives, so made common box-hives for the increase. When more honey was needed than could be got from boxes on top of the hives, the bees were killed to get it. I bought two hives of him last summer for the honey, and in the fall I 'butchered' the bees and got over 100 lb. of honey."

Now I would like to *butcher* all such bee-keeping. If the business was in the hands of expert persons, scattered about among the people of the rural districts to fairly occupy the ground, it would be to the advantage, not only of the manufacturer of bee-keepers' supplies, but of the publishers of bee-literature, and would be much better for all concerned, than the indiscriminate bee-keeping which is so often advocated at bee-keepers' conventions, and through the medium of apicultural journals.—Wm. M. Whitney, in *American Bee Journal.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. C. R. W. (Romsey). — *Drone-Breeding Queen.*—The queen received bears every appearance of being a virgin, and we fancy the queen originally introduced met with some mishap late last autumn. If this is so, the one now forwarded would be raised at that time (from an egg or larva left in the comb) and too late for fertilisation.

J. Palmer (Chichester).—*Utilising Queen-Cells.*—After a top swarm has issued, all sealed queen-cells save one good one may be utilised for giving to nucleus colonies prepared beforehand, but queen-cells are not used for giving to artificial swarms.

E. R. T. Cooke (Borthstown). — *Swarm-Catchers.*—1. We know of no plan by which an empty hive may be converted into a swarm-catcher. *Bee-Flowers.*—The best known "common garden plants" for bees are wallflowers, mignonette, *Limnanthes Douglasi*, and borage. 2. White Rock (*Arabis alba*) is a good perennial border plant. Your first letter did not reach us.

J. Hudson (Boston).—The "stuff" you found on flight-board of hive is only hard pollen cast out by the bees.

W. A. Pearman (Beverley). — *Mildewed Combs.*—Mildew in combs is a fungoid growth produced by the warm, humid atmosphere of the hive interior during winter. It never occurs on combs well covered by bees.

W. B. (Co. Limerick).—*Dealing with Foul Brood.*—The comb you send from Rathdrum is badly affected with foul brood of old standing. The brood has all dried up in process of time, but there are an abundance of spores left behind. We strongly advise burning all such combs and the frames that contain them. This and thorough disinfection of the hives is the only safe course to follow in so bad a case as the one in question.

Editorial, Notices, &c.

NEW EDITION OF THE "BEE-KEEPERS' GUIDE BOOK."

Owing to the considerable number of orders already received for the new edition of the "British Bee-keepers' Guide Book," and the natural impatience of those urgently needing copies at its non-delivery, we are constrained to offer a word of explanation with regard to the delay in getting the book out.

As a matter of fact, and owing to circumstances beyond control, it has taken quite as long to revise and prepare the sixteenth edition as if the book had been an entirely new one. The main points kept in view, however, have been (1) to improve on its predecessors, and with this object, it was decided to revise and re-write wherever necessary in order to bring its information fully "up to date;" (2) that it should be carefully printed on art paper, so that full justice could be done to the illustrations; and (3) not to rush the book through in a hurry, even at the expense of some delay. This is the actual cause of non-delivery, and we trust that next week, when the "Guide Book" will be ready for issue, readers of the new edition will feel that the delay has contributed to satisfactory results in all respects except keeping time with orders. Moreover, we can safely believe that the above announcement will not be regarded in the light of an advertisement, such "pushful" methods not being in our line.

WARWICKSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the members of the Warwickshire Bee-keepers' Association was held on May 1 at the Grand Hotel, Birmingham, Dr. Savage presiding. The twentieth annual report recorded the continued progress of the Association, sixty-nine new members having been enrolled, as against fifty-eight in the preceding year. The income amounted to £96, and the expenditure to £79, leaving a surplus on the year's working of £17. A great amount of enthusiasm had been manifested in the demonstrations given under the auspices of the Warwickshire County Council by the Association's expert (Mr. Franklin), and to such, together with the expert's spring and autumn tours, the committee attributed in a great measure the highly satisfactory increase of new members. Negotiations were on foot with a view to opening depots in the southern part of the county for the sale of members' honey. The report was adopted on the motion of the Chairman, who spoke of apiculture as a source of profit to the cottager, seconded by Mr. A. H. Foster. Lord Leigh was reappointed president, and the other officers were re-elected. A discussion on apiculture followed.—(*Communicated*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C."*

NOTES BY THE WAY.

[3971.] *Spring Overhauling.*—With the welcome change from almost frigid weather with cold N.E. winds to a temperature approaching that of June, we have passed into the busy period of the bee-year. Bee-keepers have thus been rewarded for waiting patiently before starting the usual spring cleaning of hive interiors, and the overhauling requisite to obtain a knowledge of the condition of all colonies. In making this inspection I hope our friends generally have experienced as much satisfaction as I did myself. I found the bulk of my stocks were in forward condition and brood-nests well spread, though stores are running short in some of the hives which had a good supply at the end of last summer; these, of course, received attention at once, and all has gone merrily since. We are still enjoying good bee weather, and the busy throng are soaring off in tens of thousands, in search of the needful, early and late. To-day (May 7) we have had some fine "growing showers," and this evening the bees, resuming work after the rain, are busy working at sundown, crowding into the hives six or eight abreast laden with bright yellow pollen.

The Prospect.—When taking my walks abroad I am always on the look-out regarding the prospect of bee-forage both present and future. In this line we have just now a good sprinkling of dandelions in the sainfoin and clover leys, and a few patches of turnip and rape in flower; this is, however, a rapidly diminishing quantity, as sheep are penned on the field. Then we have trefoil or hop-clover just coming into full bloom, while the woods are rich in blossom. Of tree forage we have the sycamore and hornbeam, with their abundance of blossom just opening, and the may or whitethorn in bud, to be followed with the horse-chestnuts. Then comes the trifolium, one of our earliest sources of bee-forage, from which a surplus is gathered in quantity in this district, as it flowers a full week before the sainfoin. I am fortunate in having fourteen acres within a furlong of my Stanmore apiary, and am endeavouring to get stocks forward

speedily, so as to take advantage of this early source of one of our finest honies.

Buying Bees.—Our editors ask for opinions on this subject in a footnote on page 157. I give my advice gratis for what it is worth, therefore it will not be of much value except by way of going alongside the comments of others who hold a contrary view. 1. I advise no one to purchase old stocks of bees in straw hives. 2. I always recommend novices in bee-keeping to proceed with caution in the purchase of stocks in frame-hives. I admit the latter is an open book compared with the skep, yet I feel sure that railway journeys are not beneficial or conducive to the well-being of a colony of bees. Railway porters are, I admit, chary of throwing a box containing *live bees* about as they do other merchandise; but notwithstanding this, I hold that the brood must suffer more or less. I invariably advise all purchasers of bees to buy swarms only. By doing this, the chances of future success are increased manifold, and the swarm, put into a clean hive and fed for the first week, will pay for itself the first season, and establish itself in the best condition for future success.

The system of guarantee suggested by Mr. Campbell (on page 156) would, no doubt, relieve the minds of purchasers to a great extent, but considering how many bee-keepers there are—especially among straw-skeppists—who know little or nothing of foul brood, one can see at a glance how misleading a guarantee may be, even when given in good faith by the vendor. Besides, among the risks mentioned above, the colony may arrive—with honey leaking from damaged combs—while the bee-keeper is absent; the carrier is told to deposit the hive in a shady place in the garden, and, supposing there is foul brood in it, the neighbours' bees will soon get at it, and the result may be imagined. Therefore, to be on the safe side, I say again, purchase natural swarms of good reliable stock.

Novelties for 1900.—The "Up-to-Date Hive," shown on page 158, may look very nice in print, but if the shallow-frames placed below the hive body are to be used as brood-combs would not the bees build brace-combs below those of the brood-nest and connect the combs together and then prevent the use of the drawer? Then in the winter the space below, after the "drawer" is removed seems to me a rather deep empty compartment, so the bees working in the early spring would have to take wing to reach the combs above. I myself should expect many bees would get chilled in this cellar-like compartment on cold days.—W. Woodley, *Beedon, Newbury.*

BEE NOTES FROM ESSEX.

[3972.] *Queen-Excluders.*—Your correspondent, the Rev. C. James (3954, page 162), says "Queen excluders are absolutely unnecessary." In answer to this I would say, What is unnecessary with one bee-keeper may be, and often is, very necessary to another, for the simple reason that the income of honey in different districts varies so much in the uncertain way that it comes in. In some districts there is one regular flow; in others there are two or three flows of honey, with a quiet time between each. Has your correspondent had any bee-keeping experience in a wet season, when bees can only work for a few hours a day, and often not at all? I ask the question because this is the sort of season that proves the need for forcibly compelling the queen to remain below. It is all very well to dispense with queen-excluders on the chance of things going on all right, but if the season happens to be a poor one, we want the little honey that is gathered to be saleable. It is most annoying when we have sections bespoken, and go to remove some which appear, as we see them from the top, to be nicely finished, and on lifting them out of the rack to find brood in the lower cells of nearly the whole of it! After long years of experience I have used queen-excluders under supers of all sorts and sizes. I have also experimented for the purpose of satisfying myself whether or not a queen excluder is a hindrance to the bees, and I find that, given an excluder of the correct pattern, bees are not in the least hindered by its use. I therefore advise beginners in bee-keeping to use queen excluders in all cases.

Bee-Houses.—In the particulars accompanying the apiary picture in last week's Journal, I note that Mr. Nightingale says, "I really wonder more people do not go in for bee-houses, they are so convenient." No doubt a well-made bee-house is convenient in many ways, but to find such kept clean and tidy is the exception rather than the rule. Most often a bee-house is the receptacle for a collection of everything that helps to make an apiary untidy, and anything but inviting to would-be buyers of honey. Then, how difficult it is to deal with an outbreak of foul brood, too, in a bee-house? All hives outside for me. Another thing is these hives are seldom made so that the bee-keeper can move about them without disturbing every stock by his movements, to say nothing of making a workroom of the place as some do. — W. Loveday, *Hatfield Heath, Harlow, Essex.*

NEWS FROM SOUTH AFRICA.

BEES INSIDE LADYSMITH.

[3973.] Ladysmith having been relieved, I am at last in a position to afford some information regarding the fate of the stocks of bees located there (mentioned in B.B.J. of February 8), as the owner says that they are "all gone!" He had divided his apiary, putting half about two miles out on the line towards Elandslaagte, and the other about seven miles out on the branch line to Harrismith, on the slopes of the Drakensberg Mountains; and we hoped to get some interesting information as

to the mountain honey crop, and these are not yet available for inspection; but there is no chance of ever seeing them again, as the others are gone!

Apart from the monetary loss, which he can ill afford, it is very disappointing to see the work of years swept off, as all the hives, about a dozen, were home-made, and the apiary built up by catching stray swarms or taking nests from trees and buildings. He is not, however, quite bee-less, for I have, fortunately, a stock in my garden belonging to him, and he is going to make a fresh start.

This is an instance of what has occurred to thousands to a greater degree, and may give some idea of the losses of colonists from the war; in many cases the work of twenty or thirty years has been lost, the general complaint of those who have got back to their farms being that "nothing is left."—A. C. SEWELL, *Durban, Natal, April* 14.

MANIPULATING BEES.

DAMP QUILTS FOR PREVENTING PROPOLISING.

[3974.] Replying to the question put to me in query No. 2371 (page 166), I think the reason the damp quilt keeps the sections so clean is because it clings tightly to the top surface of the wood; hence the bees cannot get at it to walk over and propolise it. My remark naturally only applies to that side of the sections covered by the quilt, and, in the case of several crates placed one above another, the bees can, of course, run over the sections in the bee-space between each crate. But I found my sections quite exceptionally clean last year — the first year I had used damp quilts; and I also found practically no propolisation, while previously I had had some trouble to strip off the quilts, so tightly had the bees fastened them down, and not only round the edges, but round the "ways" of the sections themselves (I use four-way sections), necessitating much cleaning and scraping. It is not needful that the quilt should be kept wet; it will dry on quite tightly. Try placing a wetted calico cloth on a piece of deal, and smooth out all air-bubbles; it will be found fairly firmly stuck on when dry. I think the bees finding no draughty holes, and perhaps perceiving a slight smell from the disinfectant, do not want to propolise. Of course, all this (propolisation) only applies to summer manipulation, for bees will always, of course, fasten down their winter coverings with propolis.—C. A. P., *co. Kerry, April* 28.

PRICE OF HONEY.

[3975.] I have been much interested in the discussion on this question. Well do I remember some twenty-five years ago when comb-honey—even slabs from the sulphured skep—fetched 1s. 6d. per lb., and run-honey was freely sold at 1s. per lb. Now it is exactly half this price, and this is not due to the retailer pure and simple but to the bee-keeper. I am a nurseryman and have a shop for the sale of flowers and such like. I purchase honey of my customers who are bee-keepers, and can manage to dispose of a fair quantity. Last season I retailed sections at 10d. each, and extracted honey at 8d. per lb.

A retired officer is a large bee-keeper and offers the pick of his sections to his neighbours and friends at 9d. per lb. Result:—These latter, many of whom are my customers, considered I was "having them" to the tune of a penny per section, and my reputation as a tradesman is injured.

At the end of the season the aforementioned officer coolly offered me his remaining sections at 8s. per dozen. He considered I could give this as I was "asking" 10d. I pointed out that "asking" and "selling" were not the same. It is just possible that I may be able to sell at 9d. next season, and that this bee-keeper will undersell me again.—RETAILER, *Devon, May* 1.

TRANSFERRING BEES AND COMBS.

[3976.] A short time ago I found it advisable to transfer some combs from old-fashioned to standard frames, and the method I employed may prove of interest to some of your readers.

I used Lee's patent frames with split top bar dovetailing in, so that the whole can be built up without nails. The frame was put together; tapes were tacked on to one piece of the top bar; brought below and tacked to the bottom bar and then brought up and tacked to the other piece of the top bar. This piece was now slipped out of the dovetail and remained hanging down and fastened to the tapes. The old frame was taken from the hive and the bees were shaken off. It was then placed on a board above the new frame. A knife was passed round the edge of the comb, which dropped on to the tapes of the new frame below. The other piece of the top bar was then brought over and slipped into the dovetails and the comb at once securely taped. The whole operation takes about half a minute and is much more convenient than the old method of fastening the tapes. I trust I have explained it with sufficient clearness.—HARTWELL CONDER, *Bognor, May* 5.

EARLY SWARMS.

[3977.] Yesterday (Sunday, the 6th inst.), at 9.30 a.m., I had a very large swarm of bees—my first for 1900. It was most unexpected, as owing to continued cold weather and a week of high winds, I was feeling sure that my bees would be much more steady-going. As soon as the swarm had settled, I hived them successfully, and just before a shower of rain. They worked busily all day. At 8.30 p.m. I transferred them into a bar-framed

hive, but before the bees could all get into it more rain came pouring down, seeing which I placed an umbrella over the journeying insects, and I find this morning they are all safely "home." So far as my experience goes, bees do not seem such meteorologists as some of their admirers would lead us to believe. To-day (Monday) is positively cold, and there is no prospect of the bees being able to go foraging. However, as I poured a half pint of syrup into a frame of comb before hiving them, I am happy on that point, and imagine the bees are, too.—MARY SPENCER, *Holywell Manor, St. Ives, May 7.*

[3978.] It may interest your readers to know that we hived a strong swarm of bees on May 2. Is not this unusually early? The bees had not been fed during the winter.—S. E. PERKINS, *Sidbury Lodge, Edgware, May 7.*

[A swarm on May 2 is early, but not unusually so for the south.—EDS.]

"NOVELTIES (?) FOR 1900."

[3979.] Under the up-to-date heading "Novelties for 1900," Mr. Taylor's hive was illustrated and described on page 158 of your issue of April 19, and the notification carries some claim to which Mr. Meadows speedily takes exception on page 164. For the edification of these gentlemen I beg to say that I can justly take exception to the claims of both, having been over the whole ground of hive entrances. In proof of this I may say that under my patent for "improvements in bee-hives," No. 1,873, November 1, 1889, may be read "or from the *top* or under EDGE or EDGES of any brood-body."

Long ago I experimented with hive-bodies in my apiary, which had entrance provided on the lines of the present novelty (?) hives. Moreover, I have refused orders for perverted "W. B. C." hives, constructed with a shallow-frame body placed in such a position, which, in practice, has proved a "sink-hole. —JOHN H. HOWARD, *Holme, nr. Peterborough, May 3.*

"TWENTIETH CENTURY" HIVES.

BROOD-CHAMBERS BELOW HIVE BODIES

[3980.] I notice in last two issues of B.B.J. that three of our appliance makers have this year offered a "twentieth century" hive in "Novelties for 1900." I fail to see that the working of these hives is as new in principle as our appliance makers imagine. May I say that bee-keepers who kept their bees in straw skeps before the frame-hive was brought into use well knew the value of under brood-chambers to prevent swarms. Their lower brood-chamber was, of course, an empty straw skep placed under the one containing the stock. The entrance to the top skep only was sometimes used, that of the lower one being closed, as it was thought by some that the bees kept a better watch from the top entrance, and not so likely to allow robber bees to enter. Others allowed the bees to fly from both entrances to save the time of the bee, and by some it was thought that bees were not so likely to swarm if only allowed to fly from the lower entrance.—W. W. PRYOR, *Breachwood Green, Herts, May 5.*

FOUL BROOD.

[3981.] I shall be glad of your assistance as to preventing the spread of this terrible disease. Twenty years ago I indulged in bee-keeping in a large way and foul brood I only knew of by report. Circumstances, however, compelled me to give up the hobby. Five or six years ago I took it up again and lost all my stock through foul brood, although I made artificial swarms and gave the bees new foundation and hives as some authorities recommend.

In the autumn of '98 I purchased two stocks and had fair success, last year taking a lot of honey and doubling the stock as well. In the autumn of '99 I gave a very little food, and this was medicated with naphthol beta, and when packing away for winter placed naphthaline at the back of the hives. A few days since I examined stocks and found two with patches of foul brood. It was on quite new combs. I withdrew the two frames most affected and burnt them, combs, brood, and all. Is it possible to cleanse the stock of the foul brood?—ANXIOUS, *Devon, May 2.*

[So far as regards cleansing stocks from foul brood, we can only refer "Anxious" to what has been written on the subject by those most qualified to express an opinion. The difficulties in dealing with foul brood are no more than occur in treating all infectious diseases of a like nature.—EDS.]

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The business-like details sent by Mr. Bailey regarding his apiary shown on next page are so complete as to need no addition from us. He says :—

"I commenced bee-keeping in 1882 by purchasing a swarm, and during the first two or three years I had rather bad luck, my first swarm flying off after hanging out for nearly a fortnight. A second swarm followed after the usual interval and was safely hived, but the bees died of starvation in the following March owing to my want of experience. I was thus again left with only the original skep. I then made two frame-hives and put the first swarm from my skep in one, and thought I would try my hand at driving the bees from the parent skep and put them in the other hive. During this operation I got a severe stinging owing to

my home-made smoker giving out. I stuck to the job, however, and got them in the new hive all right after receiving nearly a hundred stings. The following spring to my dismay I found one lot was affected with foul brood, so I made a swarm of the bees, and after confining them forty-eight hours, put them in a clean hive and fed them up with medicated syrup. I kept giving frames of foundation as the bees increased, and worked them up to a good stock during that summer. The old combs I burnt and disinfected the hive. I did not see anything more of foul brood for several years afterwards. At last I found it again in four stocks; two of these I burnt outright. From the other I removed all combs containing dead brood, and united the two lots of bees on the best and cleanest of the combs from both hives. Thus joined they made a fairly strong stock; they were fed up with medicated syrup and did pretty well the next season, but the disease was not quite cleared out, for a few affected cells soon showed themselves, and next year I found them bad again. I therefore made short work of it and burnt the lot. My opinion is, that when foul brood gets the upper hand at all, the best and cheapest way is to stamp it out by burning.

"My apiary now consists of nineteen colonies. The extracting-house is seen in the centre of photo. I make all my hives, Standard frames, and section-racks; the extracting-house I built myself about seven years ago.

"I have had some good 'takes' of honey, my largest was in 1887 when I extracted 129 lb. from the supers and left the bees plenty of stores to winter on. I always return swarms if not wanted, but kill the old queen beforehand. When stocks need requeening I remove the old queen at end of July and let the bees requeen themselves. After removal of all supers I examine combs in each brood-nest to see if they are healthy and queen is all right, then see what food they require, if any, and note it down. Two balls of naphthaline are next put on each floorboard; top of frames are then scraped and sticks placed across them for bee-passage above frame-tops. The hives are then left alone, shut down snugly and warm, till early next April when I go through all again and clean floorboards, and feed if required. I very rarely have a queenless stock in spring.

MR. S. BAILEY'S APIARY, ITCHINGFIELD, NEAR HORSHAM, SUSSEX.

"With regard to selling my produce, I have always managed to sell the whole of one season's honey before the next year's crop begins to come in. I got about 8 cwt. in 1899, and there is only about 90 lb. left on hand now. This, I have no doubt, will soon be gone.

"I have done a good bit of exhibiting at our local shows and at the Crystal Palace, and a good many prizes have come my way, among them the B.B.K.A. silver medal for best exhibit of comb honey at the Crystal Palace in 1891. My better half hives all the swarms, as I am away from home all day. I can honestly say that bee-keeping will pay with proper management, for they have been a good help in my case. The little

girl with her cat seen in picture is my youngest of seven. I bought the 'Guide Book' at the start, and have taken the BEE JOURNAL for a number of years, and from these I have got all the help I required."

LAYING WORKERS.

HOW TO GET RID OF THEM.

Laying workers are occasionally found in colonies that have been queenless for some time, or until the numbers are much reduced. These workers are capable of laying eggs that will produce drones only. The eggs and the developing drones are cared for with a full degree of tenderness by the bees, and they seem to be satisfied with their condition. This fact has rendered these laying workers a great nuisance and annoyance to bee-keepers new in the pursuit, especially. Many a valuable queen has been sacrificed by their owner in an effort to requeen such colonies, or, more properly, remnants of such.

The trouble with many apiarists has been realised that the bees are so devoted to the laying workers that the good queen given is considered an intruder and is destroyed. Many of us have seen this demonstrated in our earlier years of bee-keeping.

Quite a number of years ago the plan of carrying the bees with their combs some distance from their hives and throwing them from their combs and then returning the combs to the hive was practised, the bees returning, minus the laying worker, to the hive. It was claimed by the advocates of the plan that the laying workers would not know her way back and be lost, and that then a queen would be accepted. The plan did not at all times work, from the fact that the laying worker had not forgotten her location since last leaving the hive in search of honey.

The plan I hit upon some years ago was to unite these colonies with nuclei or full colonies having queens and brood. When convenient the bees are united with their combs, the bees being put at all times in the hive with the queen. I like this plan better than shaking the bees from the queenless colony at the hive-entrance of the one having the queen, as some at least will return to their old location, while with the other plan I have noticed none to do so. I have practised the preferred plan for twenty years or more, and have never lost a queen in so doing, and can recommend it to others whose methods have not proved satisfactory, or to the beginner who has not had experience along this line. This method is very easy, and the work quickly done.

I have advised the plan above outlined to be practised by bee-keepers I have met that had trouble with other ways, and success has been reported with some at least, as they so informed me. The plan is so easy to follow that I believe about every one who will try can succeed with it.

Some one may argue that the bees in the colony having the laying worker are old, and not of much value—not worth the time spent in saving them. That depends largely upon the time of year and the honey-flow at the time. During early summer and a good bloom one or two quarts of old bees will do good work, and can, with a few young bees, and even one frame of brood, be built into a strong colony by fall—yes, and sometimes do give some surplus beside. These little things must be looked after to meet with the best success possible in our pursuit, or any other in fact.

If one has reason to suspect that a colony is queenless, that colony should be examined at the earliest opportunity, and, if found so, do the work advised herein. Queenless colonies should not be allowed to remain such. As they become weak in numbers, they are almost sure to fall a prey to robbers—a thing to be avoided. Robbing thus started by the careless apiarist at once demoralises an apiary, and may be carried to weaker colonies, nuclei, &c., to the annoyance and loss of their owner. —F. A. SNELL, in *American Bee Journal.*

WEATHER REPORT.

WESTBOURNE, SUSSEX.

APRIL, 1900.

Rainfall, 1·56 in.	Sunless Days, 4.
Heaviest fall, ·46 in., on 3rd.	Above average, 5·5 hours.
Rain fell on 14 days.	Mean Maximum, 53·3°.
Below average, ·06in.	Mean Minimum, 37·9°.
Maximum Temperature, 69°, on 22nd.	Mean Temperature, 45·6°.
Minimum Temperature, 26°, on 1st.	Below average, 1°.
Minimum on Grass, 19°, on 1st.	Maximum Barometer, 30·69°, on 19th.
Frosty Nights, 7.	Minimum Barometer, 29·29°, on 4th.
Sunshine, 193·2 hrs.	
Brightest Day, 21st, 13 hours.	

L. B. BIRKETT.

Queries and Replies.

[2384.] *Suspected Loss of Queen in April.*—On looking over my three stocks of bees a few weeks ago I found all three very strong in bees, while two have brood in several frames; the third, however, had neither eggs or brood. Thinking at the time that perhaps the queen had not started laying in the last-named hive I examined it carefully last Saturday, taking every frame out, but could find no trace of brood or queen, and therefore came to the conclusion that the stock is queenless. As there are eight frames covered

with bees with plenty of food in the combs, and the bees work fairly well and carry in a lot of pollen, I ask: Would you kindly advise me what is the best course to take? 1. Could I not purchase a queen for them? On looking through last BEE JOURNAL I find two querists asking the same question, but in each case they have only about half a pint of bees; and, therefore, do not think the replies quite satisfactory to my case, as I have so often found when in difficulties.—ANXIOUS, *Gloucester*.

REPLY.—Seeing that the bees are working fairly well and carrying in pollen freely we should give a frame containing eggs and brood from one of the other hives and let them raise a queen for themselves. This is not a favourable time for buying fertile queens, but it will be just the right season for getting a young queen fertilised by the time one would hatch out from a queen cell now started.

[2385.] *Bees Clustering Outside Hives.*—I have been much perplexed by the way my bees have been going on during the last few days. On Sunday, the 22nd ult., I noticed a great commotion in my strongest stock, bees flying all round the hive. Thinking it was being robbed I narrowed the entrance to about 1½ in. Towards evening a cluster as big as my hand formed on the board and stopped there all night, and in the morning I dispelled them with smoke. Since then there have always been a number of bees (about fifty) clustering on the cone escapes in the roof, and at the back of the hive under the eaves. There were also a lot of bees gathered inside the roof. On Saturday, the 28th, I determined to stop this, and bound the parts mentioned with carbolic cloth and adjusted the quilts so that the bees could not get up into the roof. A cluster was again seen formed on the alighting board, and this morning they are all dead. Many of the bees have pollen on their legs, so they cannot belong to another hive. There is no syrup or anything which could induce robbing, and I am at a loss to find a reason for their curious behaviour. Could you suggest any explanation?—H. G. CARTER, *Watford, May* 1.

REPLY.—Judging from particulars given it seems apparent that the unexpected outburst of warmth on date named (April 22) caused the bees to turn out in numbers for an airing owing to the crowded condition of the hive. So sudden and great a rise in temperature would cause the cluster of bees to so enlarge in bulk as to crowd the hive, and under such circumstances it was a great mistake to narrow the entrance; by so doing the discomfort to the bees was increased as shown by their clustering outside and in the roof. Bearing in mind that several swarms are reported on the date mentioned—and that the stock referred to was evidently very strong—the proper course would have been to afford room and increased ventilation by putting on a surplus-chamber. When our correspondent says: "This morning they are all dead," we, of course, presume he means only "the cluster formed on the alighting board," not the whole colony? which evidently requires surplus-room without delay.

[2386.] *Suspected Foul Brood.*—I bought three driven lots of bees (through advertisement in BEE JOURNAL) last season which were put into a double, or "Wells," hive. On examining last week I found most of the bees had dwindled away, and I suspect foul brood as the cause. I enclose a piece of comb from the only frame which has brood or eggs in for your inspection, and shall be very pleased if you will answer through B.B. JOURNAL, from which I gain a lot of information. I may say the bees were advertised as healthy, and foul brood was not known in the apiary from which they came. I have had bees for fourteen years, and it is the first case in my apiary, although I help cottagers with their bees a lot, and have come across foul brood in advanced stages. I had seven hives to start winter with, and all the other six are clear from anything like sample enclosed. I have destroyed the bees. An answer through your valuable paper will oblige.—A YOUNG BEEKEEPER, *Annfield Plain*.

REPLY.—The brood in comb sent is chilled only, not foul, but it would perhaps be more conclusive if a small piece of comb with sealed cells—if there are such—from a comb not covered by bees. We will then give a more definite reply as to the best course to follow.

[2387.] *Bees Absconding.*—After keeping bees for fifty years I have now had an "experience" which altogether puzzles me, viz, my apiary, which consisted of fifty-three colonies, has become reduced (since the end of January) by no less than thirty stocks. The first lot left their hive one very fine day at the end of the said month, and others have since been deserting in the same way. We have, however, always caught the absconding bees, and as each lot was small in quantity, I have then taken some bees from other and stronger hives and joined them to the runaways. Thus reinforced the latter have then worked pretty well on fine days for a time, when the same absconding has again occurred, and I have repeated the strengthening process by giving bees to the runaways, but all to no purpose, for the same proceedings have been repeated until quite recently, and during the whole time the heavy death-rate seemed to continue from some cause. I therefore ask:—1. Would combs from other hives, which I always keep by me and give to newly-made stocks, be likely to cause the mischief; or would it be attributable to the honey (sample enclosed) which was given as bee-food last autumn? I bought the honey through an advertisement. I am just now breaking up the combs of the empty hives, and find some few sealed cells in brood-nests containing

dark-coloured putrid matter therein. 2. Would this cause the dwindling?

My remaining hives—through taking bees away from them as stated—have become a good deal weaker than they would otherwise have been, while the small weak lots and their queens are of no use or value at all. I am thinking of purchasing more bees if it would be advisable to do so, and using the preventives advertised in your highly appreciated journals. Up to present time I have used only salicylic acid as a preventive of disease. My remaining twenty-three stocks seem now to have rallied well, and are working briskly on fine days. I use both frame-hives (single-walled) and straw skeps, and am passionately attached to my bees, though not much surplus honey can be got in this part of our county, as it is mostly arable land devoted to corn and potato growing. We have a public park of 5,000 acres covered with ling and gorse, but its verge is two miles away, so my bees do not get much, and that only on very fine warm days. Still, I was contemplating uniting several stocks at the honey season, as I might then get a rack of sections from every hive thus made up. 3. Am I right? 4. Do you approve of the artificial swarming plan, or is it best left alone?—Wm. Dawkins, *Sutton Coldfield*, *May* 1.

Reply.—On the general question involved in above query, we can only say that so great a loss as thirty colonies of bees out of a total of fifty-three cannot be accounted for other than by supposing that the hives have not been well prepared for wintering. In other words, stocks provided with plenty of bees, young queens, an ample supply of wholesome food, and housed in sound domiciles will never leave their hives as hunger-swarms at the rate of over 50 per cent. in one season! According to our correspondent's account of his unfortunate "experience" the bees began to abscond from their hives at the end of January last as what are called "hunger swarms"; these were all secured and rehived, only to again desert their homes in the same way. We have no further particulars of what was done beyond trying to strengthen the bees by adding some from other hives, and so we must look to the two items—outside bad or good bee-management—viz., the queries numbered 1 and 2 respectively for an explanation of the trouble. Regarding query No. 1, we may say the combs given to assist the bees may have conveyed foul brood into the hives so helped, but in any case the bees should not have been fed on honey like sample sent, which, being rather badly fermented, is unsuitable for bee-food. Query No. 2. If our correspondent will kindly send us a small piece of comb containing two or three of the suspected sealed cells, we will state definitely as to there being foul brood or not, but we do not like to venture an opinion from a brief verbal description. 3. There should be no difficulty in securing a rack of sections from each of the twenty-three hives without any further uniting, since they are all now doing well. 4. We think natural swarming will be more successful with you than the artificial method.

[2388.] *Suspected Loss of Queen.*—On the 24th ult. I particularly noticed a great change in *one* of my skeps (a last year's swarm or cast). This skep has been very light in weight all along, and still remains so, and I have lately been feeding the bees with candy at top, and am still doing so, as the combs appear quite empty of stores. The bees on the day mentioned were noticed to be running about in all directions in front of the entrance and looking about apparently for something lost, while they made a loud humming inside, and kept on flying a few feet from the hive and back again. Up to this time they had been particularly quiet, though doing a little pollen gathering. Is this an indication that they have lost the queen? (They still gather a little pollen.) If so, what is my best course to adopt before placing it on the frame hive? Or would you advise me to allow *this* skep to swarm if it will, and unite to another stock later?—W. H. B., *Dawley, Salop.*

Reply.—The disturbance noticed is exactly descriptive of what occurs when the queen of a hive is suddenly missed by the bees; and this *may*, of course, have happened on the day in question. But it is unlikely that it has occurred at the present time—with a skep not interfered with in any way likely to cause a mishap to the queen—we, therefore, think it probable that the symptoms indicate an abortive or half-hearted attempt on the part of the bees to leave the skep as a "hunger-swarm." We say this in view of the statement that "the combs are quite empty of stores." If our surmise is correct all will have gone on well since, and no harm is likely to follow so long as feeding is continued. But candy is not suitable food at this season. Give syrup instead by all means. No mention is made of the amount of food taken daily or how much has been given in all, but if the queen was really lost on the 24th, while eggs and brood were left behind in the combs, the bees would raise another queen therefrom. You should therefore turn the skep up in order to see if queen-cells are formed on the edges of combs, and if so found let us know.

[2389.] *Preserving Sections — Sheppard's Self-hiver.*—1. Will you kindly let me know the best plan for preserving sections—say till next spring? I usually find mine granulate in three or four months. Would it be helpful to paste paper over open parts of crates, keep them in a dark, dry place, or how? 2. I see on page 166 a sketch of "Sheppard's Self-hiver," and its designer says there are "two boards kept 1 in. apart by two slips of wood 1¼ in. square and 10 in. long." I presume the excluder is nailed on to those slips of wood, but I cannot see how the bees can get in the

hive that is placed on the top-board unless the centre is cut out; and, if that is the case, why would not a small makeshift hive with an inch or so of wood put on all round the bottom, except the front, of course, which front would be covered with queen-excluder? If you will let me and friends like myself know in next B.B.J. as to this idea being right I would feel obliged. I am away from home all day, and you cannot stop bees from swarming by putting on supers if they make up their minds to migrate. I am an old bee-keeper, but I never had any experience with self-hivers—in fact, I have never seen one.—A. CLAYTON, *Welling, Kent.*

REPLY.—The best way of preventing granulation in section honey is to keep it in a warm, dry cupboard—next to a kitchen fire for preference—where a temperature of from 60 to 70 deg. Fahrenheit can be maintained during winter. 2. The dark line shown in the cut on p. 166 is intended to indicate that a circular piece is sawn out of the upper board to size of inner edge of the skep set thereon. The "slips of wood" alluded to reach from the hive front half way across the circular opening, and the narrow piece of excluder zinc nailed to inner edge of the circular opening extends from one strip to the other, thus preventing queen and drones from passing to the outside. If a frame-hive is used in lieu of a skep the hole in the upper board is shaped accordingly.

[2390.] *Artificial Swarming.*—Might I trouble you to answer another question relative to "artificial swarming," making three colonies from two? 1. Would it expedite matters when frames containing brood are transferred to the new hive, were one of these frames to have a queen cell attached? 2. On examining one of my hives to-day I found a number of maggots similar to the enclosed. Is not this the grub of the wax-moth? The stock in this hive is a particularly strong one. Most of the grubs were found under the quilt and in the slits in top bar, where the foundation was inserted. I hope that the grub will not be hopelessly crushed in the post.—A. F., *Uxbridge-road, May* 1.

REPLY.—It is best not to endeavour to "expedite" matters in the way proposed. The plan recommended in "Guide Book" is the result of the author's long practical experience of all methods, and we advise close adherence thereto. 2. The "maggot" sent is a larva of the small moth which infests hives, not the bona-fide wax-moth (*Galleria cereana*), which latter is the "bee-enemy" that commits such mischief amongst combs when it gains a footing. The small moth can usually be kept from doing serious harm by strong colonies of bees.

[2391.]—*In What Months do Queens Lay Most Eggs?*—Would you kindly tell me in the B.J. which month—on an average—"the mother bee" lays most prolificly? An estimate was made by Ph. J. Baldenspuge in *Gleanings*, reprinted in the April *Record* of 1897, of what a certain "mother bee" did in the way of egg-laying in Palestine in 1891. What I want to know is what month in the year "the mother bee" requires most room for the laying of her eggs here in Yorkshire? I should say May, then June. Is that right, or would you put April second? The question has arisen because an acquaintance adds to his frames in April. I hold this should be done in May.—W. A. PEARMAN, Vicar, *Bishop Burton Vicarage, May* 5.

REPLY.—It would be misleading to attempt to fix certain months for particular counties as those in which queen bees do most ovipositing, so much depends upon the season. As a general rule, however, it may be said that in this country in a favourable spring, young prolific queens in strong colonies will produce most eggs during the last three weeks of April and the five weeks following in the south; while in the north it will be about a fortnight later.

[2392.] *Taking Bees and Hives to India.*—I am at present on leave in England from India, where I have tried many times to domesticate the wild bee, but without success, I dare say, as I know very little about the subject. I am returning in October next, and am anxious to take back a swarm with me. Would you, or any correspondent with experience, kindly let me know—1. The best kind of bees to take? 2. Also the best hive, with particulars of management of swarm on the way out, &c.? Any information you can give me will greatly oblige, as I am *quite* a beginner. I take in the BRITISH BEE JOURNAL, and have been greatly interested in the paper.—E. GORDON GRINLINTON, *Stockbridge, Hants, May* 4.

REPLY.—We will ascertain the views of our esteemed contributor, Mr. F. W. L. Sladen, on the general question of taking bees to India, Mr. Sladen having visited that country a year or two ago, and studied the question of bee-keeping on the spot. There are, however, many difficulties likely to beset a beginner in undertaking so arduous a task as the safe conveyance of a stock of bees for so long and trying a journey. And we are glad to be able to promise useful help in the required direction by what we hope Mr. Sladen will have to say on the subject.

Bee Shows to Come.

June 18 to 22 at York.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. Edwin H. Young, Secretary, 12, Hanover-square, W.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show, in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Schedules when ready from F. B. White, Hon. Sec., Marden House, Redhill. Entries close July 30.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. H. McMillan (Bromborough).—*A Beginner's Question.*—1. Every normal queen-bee possesses a sting, and uses it, too, at times, such as when coming into contact with a rival queen. 2. If the bees in each hive cover five frames now, there is ample time for both stocks to become strong by mid-June, when the main honey-flow begins in your county (Cheshire). By uniting you would, of course, lose the progeny of one of the queens now breeding, and thus lessen the harvest. 3. A frame of drone-cell foundation placed in centre of brood-nest will induce the production of drone-eggs. 4. Drone-traps are not now used. The elementary character of our correspondent's queries leads us to say that a good guide-book on bee-keeping would help him very much in attaining success.

E. Illingworth (Acton, W.).—*Bee Nomenclature.*—The insect sent is a wild bee of the *Andrena* genus, commonly known as sand-bees. They usually form their nests in sandy banks and gather pollen just as does the hive-bee, for which it is sometimes mistaken.

J. R. (Stowmarket).—*Honey for Showing.*—Sample sent is very good in colour and fair in flavour, but rather wanting in density. Regarding its fitness for "showing," all depends upon what is staged against it; and, being of last season's gathering, it is, of course, not eligible in a class for honey of 1900.

P. C. (East Molesey).—*Selling Bees and Appliances.*—We cannot undertake the task of appraising the value of hives and appliances. In your case the best "valuer" will be the dealer from whom the goods were bought, seeing that so much depends on the original value of the various goods contained in the inventory sent.

C. Fletcher (Llandudno).—*Wild Flowers for Bees.*—The plant sent in is the yellow figwort (*Scrophularia vernalis*). It is known as being visited by bees freely in some seasons, but to term it "the best flower in existence for bees" is altogether beyond its merits.

Fred Blackett (Westmorland).—*Size of Shallow-Frame Surplus-Chamber.*—The internal dimensions are 14½ in. from front to back, and 5⅞ in. in depth. As you have purchased shallow frames ready made, it will be true economy to buy a ready-made box to hold them as a pattern to work from. On the other hand, full details and measurements of a body-box for standard frames—with drawings and plan—are given on page 437 of B.J. for November 3, 1898, and the shallow-frame box is exact same dimensions less 3 in. of its depth. *Doubling Hives for Extracted Honey.* — 2. The "doubled" stock is strengthened simply by giving it all the combs containing brood from another colony, the bees of the latter being put back into their own hive as a swarm. By following the instructions given in "Guide Book" no mistake can occur.

F. W. G. (Hindhead).—*Preventing Swarming.* —1. Cutting out queen-cells is by no means a reliable or approved method of preventing the issue of swarms; moreover, it is not a suitable method for beginners to follow. Before queen-cells would need removal surplus-chambers should be on the hive, and giving these in good time and also providing ventilation, is far more efficacious for the purpose in view. *Superseding Queens.*—2. Only practical experience can enable a bee-keeper to guess the age of queens, it being unsafe to judge by appearance only. So long as a stock is doing well, we advise no removal of queens till sufficient experience has been gained.

Maud Scott (Sandgate).—*Joining a Bee-Keepers' Association.*—The hon. secretary of the Kent and Sussex B.K.A. is Mr. H. W. Brice, 100, Brigstock-road, Thornton Heath, who will no doubt give all information as to membership and where "bee-demonstrations" may be seen.

H. W. T. W. (Dumfries). — *Swarms from Diseased Stocks.* — 1. It is not often that colonies affected with foul brood are given to swarming, but should it so happen, the only preventive we can name is to feed the swarm with medicated food for a few days and use naphthaline in the hive. 2. The other preventive you name is used in the same way.

Amal. (Worcester).— *Foul Brood.* — Comb contains foul brood of old standing. On no account should the combs be used again. Melt them down for wax or burn without delay.

Rhys, E. (Edenbridge).—*Suspected Combs.*—We regret to say that along with a mass of normal, healthy brood, a few scattered cells contain foul brood of pronounced type, and in view of the bees being *very strong*, and the season suitable, we advise getting them off the diseased combs, and treating them as a swarm, as advised in "Guide Book."

N. (St. Albans).—We find very slight signs of *spores* in comb sent, all traces of brood being dried up and gone.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Though still erratic and uncertain the weather during the first half of May has on the whole been fairly favourable to bee-keeping, and strong colonies of bees in early districts are already storing surplus. Even in stocks less forward the impetus which always accompanies honey and pollen gathering from natural sources, has caused a welcome expansion of brood-nests, along with an adequate supply of natural income to feed the thousands of bees venturing outside daily. With even a reasonable proportion of bee-weather the prospect is therefore encouraging. The short burst of warmth on April 22 and 23—on which days several swarms were reported in our pages—was too limited in its duration to cause an outbreak of swarming fever, the cool winds of the following ten days keeping the bees comparatively quiet. The same propensity, however, showed itself on the first return of warmth, swarms being notified in our columns as issuing on the 2nd, 6th, and 8th inst. respectively. All this goes to show that bees will need considerable "management" to keep them under control so far as regards swarming should a week of hot weather supervene between now and the end of the present month.

HONEY OF 1900.—Several notifications in this issue remind us that honey shows for the year are now rapidly getting within measurable distance, and this lends additional interest to the probable quality in the current season's honey. We had our first taste of this a few days ago in a sample forwarded for our opinion. It was removed from the hive on April 28. And—for honey gathered so early in the season—we thought it better than any we had tasted for some years past.

BEES AND SURPLUS CHAMBERS.—Bearing in mind the importance of starting bees to work in surplus chambers with no loss of time as soon as the colony has become sufficiently populous to warrant supering, those who find difficulty in getting bees to enter surplus chambers in the early season should take advantage of the inducements in this direction that may be offered by giving a few half-built-out sections or a shallow frame, as the case may be, partly filled with fresh gathered honey at this time. If, therefore, a very forward colony in the apiary is storing surplus before the others have taken possession of supers, it is true economy to use a portion of the season's earliest produce as mentioned above, seeing how often the aroma of newly-gathered honey will cause bees to pass through excluders in order to reach it. Nor is it a less useful hint for us to advise great care in packing the first surplus chambers given as warmly as is possible, not only by giving plenty of top-covering but stopping all crevices at the junction of body-box and super by which cold air can enter from the outside. The right time should also be chosen for giving surplus room, because if it be given—and especially when excluders are used—either when weather is unsuitable, or when the hive below is not well occupied, the bees will refuse to pass upward through the perforation and lose valuable time by storing honey in combs which should be filled with brood only.

THE LAW OF BEE-KEEPING.—Readers of this journal will have noted the many occasions when we have been asked to expound the law with regard to the keeping of bees being—under certain conditions or circumstances—made preventible by law. Those who have so read will perhaps remember that we never, on any account, advise any one who seeks help from us either to take the law into his own hands or indulge in going to law on such matters if it be possible to avoid it. At the same time we have never hesitated in saying that the only way in which a person becomes liable to penalties for keeping bees is by so keeping or so managing them as to inflict actual damage—personal or pecuniary—to individuals, or to become a nuisance and danger to persons passing along a public road or thoroughfare. These are, we believe, the only points which the law recognises, and it is, therefore, incumbent upon all who keep bees to avoid the legal consequences of their infringement.

We are led to make these remarks because of a case referred to on page 199, where a worthy man of humble station has been alarmed by a Road Inspector

informing him that his bees, which are the main source of his livelihood, must be removed, because of their being located less than "fifty yards from the public road." We shall await the result of the advice we have given to our correspondent before saying more, but we do not see any great cause for supposing that "the law" will in this case cause the bee-keeper to do more than attend to the "points" we have noted.

SURREY BEE-KEEPERS' ASSOCIATION

ANNUAL MEETING.

The annual meeting of the above Association was held at Guildford on Saturday, April 28, the President, General Sir Percy R. B. Feilding, K.C.B., in the chair. Those present also included Messrs. A. Seth-Smith, Chairman of the Executive Council; F. B. White, Hon. Sec. and Treasurer; W. Welch, C.C.; J. King, C.C.; J. R. Aubry, R. Mossop, R. Peters, F. S. Fletcher, A. H. Miller, E. A. Stopford, W. F. Reid, C. F. Stedman, A. H. Stedman, F. Morris, J. W. Lewis, and G. A. Page. Letters regretting their absence had been received from Mr. E. J. Halsey, J.P., Mr. Macan, and others.

The Chairman, in moving the adoption of the annual report, said it was satisfactory to note how well the Association was working, and particularly with regard to the steps taken towards the eradication of foul brood, which had been crowned with great success, and if continued there was fair reason to suppose that foul brood would be eradicated in due time.

The report and balance-sheet having been adopted,

The Chairman, in moving a vote of thanks to the County Council for renewing the grant made last year, said that fact showed that the money had been well spent, and that it had been so spent was due to the energy and good management of the Executive Council.

Mr. Seth-Smith, in seconding, said that but for the assistance of the County Council the Association would have had to greatly curtail their work, which had increased every year since they started. In 1896 they had 150 members; to-day they had over 500. Last year 2,160 hives were examined, compared with 778 in their first year, and this increased work was really due to the good financial position of the Association. Only seventy-nine stocks had in the last year been found affected with foul brood, a decrease of 3 per cent. on previous years. The bee-van had visited thirty-one places, as against twenty-seven in 1899, whilst the attendances were much better. The *Journal* was sent to every member each month, thus representing something like 6,000 *Journals* being sent out by their Hon. Sec. during the year. He thought they owed Mr. White a debt of gratitude for the amount of work he did for the Society in his honorary capacity.

Mr. J. King, in replying, said the County Council's grant was most readily accorded, and the work done by that Association was highly satisfactory to the county generally.

Votes of thanks were also accorded to the Governors and officers of the Royal Grammar School for the gratuitous use of room for Council and Committee meetings, and to the retiring Executive Council. The Chairman especially referred to the work done by Mr. White, their Hon. Sec., whose services, he said, could not be overrated. The vote was seconded and carried *nem. con.*

The following were elected the Executive Council for 1900:—Messrs. A. Seth-Smith, R. C. Blundell, C. E. Cuthell, J.P., E. Daw, J.P, F. S. Fletcher, G. C. Halahan, J. W. Lewis, A. H. Miller, W. F. Reid, W. Sole, E. A. Stopford, H. E. Taylor, G. M. Walker, A. Watkin, T. Welham, and F. B. White. The meeting closed with a vote of thanks to the Chairman.

STAFFORDSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the above Association was held at the Borough Hall, Stafford, on April 14, under the presidency of Mr. W. G. Bagnall. There was a large attendance of members, including the Rev. G. C. Bruton, Messrs. E. Pitt, E. W. Turner, J. Kendrick, T. Turner, R. Cock, E. E. Crisp, W. H. Scarlett, J. Stubbs, A. M. Lucock, T. I. Weston, &c.

The Chairman congratulated the members upon the fine season of 1899 and hoped that the members of the Association had had a successful year with their bees.

The balance-sheet, presented by Mr. Crisp, the Secretary and Treasurer, showed that the receipts on the general account were £36 17s. 8d., and the expenditure £40 11s., leaving a balance due to the treasurer of £3 13s. 4d. The amount chargeable to the general account from the show at Wolverhampton, being the excess of expenditure over receipts, was £21 0s. 5d. Against the amount due to the Treasurer, the Association had assets valued at £26 3s. The Secretary reported a substantial increase in the membership, which now stood at 184, as against 166 in 1898; but he regretted to state that when the accounts were closed no fewer than twenty-five members had not paid their subscriptions, the sum of £5 3s. being in arrears.

Mr. R. Cock, the expert, presented his annual report which gave full details of the work done during the year, including his inspection of 699 frame-hives and 197 straw skeps. Fifteen cases of foul brood were found and suitably dealt with.

The report and balance-sheet were adopted.

The election of officers next took place, Mr. A. H. Heath being re-elected President;

Mr. W. G. Bagnall, Vice-President; Mr. E. E. Crisp, Secretary and Treasurer; Mr. R. Cock, expert, and Mr. E. W. Turner, auditor, were also re-elected.

The Committee was reappointed with the addition of gentlemen in districts not represented last year.

A vote of thanks to the Mayor for granting the use of the room, and to the Chairman for presiding, brought the meeting to a close.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of April, 1900, was £2,220.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

KEEPING BEES IN INDIA.

[3982.] In reply to Query No. 2392 (page 189), in your issue of May 10, colonies of European bees have been sent successfully to India on several occasions, but the conditions do not seem to favour them, and sooner or later they become weak, dwindle, and die. Failure has generally been attributed to the bees' inability to resist the attacks of various birds and insects which prey on them and reduce their numbers faster than they can be maintained by breeding, but probably faulty management has also had a good deal to do with it. The chances of success are greater in the hills than in the plains.

About fifteen years ago there was a great stir about bee-keeping in India, chiefly through the exertions of Mr. J. C. Douglas, of the Indian Telegraph Department, who unfortunately died without seeing his labours crowned with success. With considerable effort and expense Mr. Douglas introduced the Italian bee into India. His colonies did well for a time, and he was able with great pleasure to present to the wife of the Viceroy the first fruits of his work in the shape of a fine glass of honey in the comb. The bees bred with rapidity, but it appears that insect and other enemies carried them off at a greater rate, and so the colonies diminished in numbers. At this critical moment Mr. Douglas died. A few of the remaining stocks were sent to Darjeeling and other hill districts, but whether from an uncongenial climate or flora, or through enemies or diseases, or through neglect caused by ignorance of management, the Italian bee soon disappeared from India, both in the hills and in the plains.

Mr. Douglas wrote a "Hand-book of Bee-keeping for India," which was published by the Government, and copies, I believe, are still obtainable. It is an account of English bee-keeping as it was sixteen years ago, with suggested modifications for India, some of which have since turned out to be impracticable. The work contains some useful information and suggestions, but the new edition of the "British Bee-keepers' Guide Book" would probably be more useful to your correspondent.

In attempting to take a swarm of bees to India there would have to be considered, besides the long and trying journey, the risk of bringing them successfully through the heat of the Red Sea. October is the hottest month in the Red Sea. In a swarm of Himalayan bees I brought home from Darjeeling in February (the coolest month in the Red Sea) the deaths that occurred during the two days after we left Aden amounted to nearly half of the total loss of the three weeks' voyage between Calcutta and Marseilles.

On the whole I should recommend your correspondent not to attempt to do anything with English bees in India, but to try the native bees and take out only the hives and such appliances as are best got in England. A large apiary of a good strain of native bees is kept at the jail, Darjeeling, where stocks and swarms could doubtless be purchased at moderate prices. In the hill country of the North-West Provinces they can be obtained from the natives who keep them in rough hives in the walls of their houses. In other parts of India they may be found wild in the jungles, in cavities of trees, &c. The natives generally know where the nests are to be found. The only bee at present admitting of cultivation is *Apis mellifica*, variety *Indica*, various races of which occur in the hills and plains, and in Ceylon. It may be known roughly from honey-bees unsuited to cultivation by its medium size. The large bee *A. dorsata* (about $\frac{3}{4}$ in. long), and the small bee *A. florea* (about $\frac{5}{16}$ in. long) both of which build their combs *out in the open* from boughs of trees and shrubs or from overhanging ledges of rocks, should be avoided except for experiment.

Articles that should be got in England are hives (in the flat), a good honey extractor, and various small appliances. In selecting appliances, it must be borne in mind that the Indian bees are smaller than ours. It would, therefore, be useless to take out brood foundation or queen-excluding zinc of the patterns used in England. Our ordinary brood foundation, if given to Indian bees, would be drawn out by them into comb for raising drones. Foundation of the correct pattern is obtainable from Gunesham Nath Mistry, Nushkarpore, Behalla Post Office, near Calcutta, if he still supplies it. I do not know where queen-

excluding zinc of the right pattern for Indian bees can be procured, as they vary in size with the district (being larger in the hills than in the plains); it would most likely have to be specially made, and it would be best at first to make shift without it.

I could perhaps give more particulars that might be useful if I were to know in what part of India it is intended to keep bees. Bee-keeping in the hills is a different thing to bee-keeping in the plains.—F. W. L. SLADEN.

[3983.] Having had some experience in conveying bees by steamer in the tropics, I should be pleased to say something which would be of help to your correspondent Mr. E. Gordon Grinlinton (2,392, page 189). There should be no difficulty whatever in taking bees from this country to India. A better time than October, when the English bee activities are over, the queens having generally ceased laying eggs, could not be. Your correspondent had better take his bees in an ordinary ten frame hive. The bottom of the hive should be covered with perforated zinc, so also the top, as it will be found necessary in getting into the hot region to give considerable ventilation. The frames should be wired. Five frames should be half filled with sealed honey. The other frames might be quite empty or might contain old comb, but without honey in the cells. The bees should cover five frames. No frame must contain eggs or young brood at the time of packing. Frames must be wired. The hive should be packed tightly and warmly. When in the warm latitudes, bees must be supplied with water every day (on sponge or piece of flannel), which they will greedily suck through the perforation of the zinc cover. Bees should be kept covered, and in the dark. A cool part of the ship should be chosen. If all light be excluded the bees will travel quietly and without excitement.

In the Red Sea, where the heat is very intense, the hive should rest so as to allow ventilation from below.

If conveyed with due care, it will be found at the end of the voyage that very few bees have died during it. Nothing of a "smelly" nature should be permitted to be near the hive. The air as far as possible should be pure. Keep hive out of the way of sun's rays, or else bees will become unnecessarily excited. —(Rev.) W. HORSFALL, *Hitcham Rectory, Ipswich.*

EARLY SWARMS.

[3984.] To-day a fine natural swarm issued from strong hive in my apiary. Other of my stocks here also show signs of swarming.—W. W. PRIOR, *Welwyn, May 8.*

SPRING NOTES FROM LANCASHIRE.

[3985.] *May 6.*—In the week that has just passed we have seen a wonderful change—the trees now being nearly in full leaf, and all the varied hues of shades of green and brown, fresh and bright, delight the eye as one looks up from garden work. How delightful is life in a garden in spring. Listening to the songs of the birds, watching the developing blossoms and buds. Look at the bees on the white rock and gooseberries, and just listen to them in the pear tree! It sounds like swarming time. I was once a "town bird," and sought my amusements there, but now that willow warbler and cock chaffinch give me greater pleasure than the finest orchestra. What music can be compared with that lark which pours out its song of praise at heaven's gate, or the song of the thrush and blackbird morn and eve? This is a digression into which a lovely "bee-week" has led a grateful "bee-man." I have been able to overhaul all my stocks, and was astounded at the change. Four hives which have not seen the feeding-bottle so far this year were found to be very strong indeed, brood being on seven combs in one instance, and on the others on five and six. In all there were ample stores, and the strongest of the lot had a considerable quantity of this year's honey sealed over. It is not a practice of mine to recommend brood spreading, so very many beginners come to grief thereby, but in the hands of the judicious, who know *how and when* to do it, no harm will follow. So in the strongest stocks—all crowded with bees—I placed a sheet of new foundation, and crushed the sealed honey to stimulate and help them to get up "steam." How they did work! It was most noticeable to "outsiders" even that these stocks were working harder than the others. The tea-leaves in the dishes have had to be kept constantly replenished with water. I hear from others that the "dodge" does not succeed with them, and when I have visited their places and seen the dirty, slimy, snail-tracked mess I have not wondered. The tea-leaves should be renewed at least twice a week, and it is a good thing also to take them indoors when done with for the day, as slugs are very fond of bivouacking thereon. A pinch of salt sprinkled on the spent leaves also tends to keep them fresh and sweet.

(*Conclusion on page* 196.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The question of selling honey has been so prominent of late that we welcome still further the corroboration of the fact that, with a fair amount of business tact and aptitude, the difficulties experienced by some can be overcome. Mr. Branthwaite, instead of complaining that there are "too many bee-keepers" in the field for bee-keeping to pay, laments the fact that there is no bee-keepers' association in his county. He says:—

"My desire to become a bee-kepeer began

when I was a boy going to school, and upwards of twenty years ago I really made a start. Since that time I have often thought over the question whether bees pay or not, and have come to the conclusion that they pay well when you get to understand them. I was unlucky for a time with regard to wintering my bees. In the first year I lost five stocks, but for some years past I have lost none in this way. I may also say bee-keeping has been a source of much pleasure to me, though there are many better districts for engaging in the pursuit than where I reside. We are 300 ft. above the sea level, too high, I fear. It is a splendid place for white clover, but we have few fruit trees around us. The clover, too, is of good quality, growing as it does near the limestone.

"Coming nearer to my house, there is a cardboard picture in the shop which is thought more highly of than anything else in the bee line. It has on it thirty prize-cards won by our bees at shows, many of them first prizes. But for this success I do not claim all the credit for them. My good wife, whom you see in the picture, does all the glazing of sections and making ready the exhibits for shows. She also claims two hives as her own, viz., the two observatory hives between which I am seen standing in photo. The one on my right has never been beaten at any show yet; it takes four standard-sized frames and closes up like a book, with shutters to cover when closed.

"With regard to our marketing honey there is not much trouble in disposing of at 10d. and 1s. per lb. for honey of good quality. I can retail all mine and a good deal besides. We don't get as large a quantity of surplus as our friends in the south, but my stocks average about 40 lb. per hive. I don't keep a strict account of the surplus taken, but will keep one this year and let you know later, all being well. I have one 'Wells' hive which I like very much so far. Last year was my first trial of the double queen system and I was well satisfied with the result. The bees seem to commence breeding sooner than in ordinary hives. I have none but black bees, which I think works well, and is a very good-tempered bee. I can do anything with them almost, though very rarely wearing a bee-veil and seldom using the smoker. I am a shoemaker by trade, and if any of our experts be in West Cumberland at any time I shall be very glad to give them a welcome and a shelter at my "home of the honey-bee."

"Finally, I must add a word to say how much it would gratify me to see a bee-keepers' association started for Cumberland. Our craft is too much neglected here, I think, not many bees being kept, though the quality of our honey is very good. Wishing to all a good season in 1900."

It has several times been suggested that an association should be started for Cumberland; will no active bee-man take the matter up?

MR. J. BRANTHWAITE'S APIARY, ARLECDON, COCKERMOUTH, CUMBERLAND.

CORRESPONDENCE.

(*Continued from page* 194.)

Selling Honey.—I see this correspondence is still with you. Bee-keepers have the remedy in their own hands. A bee-man's education is not complete till he has learned to find a market for his honey and the admission that he cannot or does not do so is a confession of want of business capacity. I sell all my surplus retail at a good price and without pushing it. True it is not great, averaging about 2 cwt. yearly, and in addition I generally get rid of about 1 cwt. besides. Now if I chose to go in for it as a partial means of livlihood as many of the brethren of the craft have to do, I may say unhesitatingly, that I could dispose of a ton of honey yearly at the same figure. How should I do it? Well, I should just put one of Mr. Rose's "Honey for Sale, from our own Bees" in a conspicuous position, and should spend the best part of Saturday and Sunday selling honey to the passers by. It is a wonder to me that people in the Lake district and Wales will not adopt some such method instead of flooding Liverpool and Manchester wholesale markets. A traveller for a large firm of grocers, having perhaps a score of establishments up and down the county, told me that he can buy honey from the southern counties, and after jarring retail it at 10½d. per lb. "The people down there don't know the value of it, and we have a man buys up the lot at a very low figure and sends it on to us."

May 13.—With the exception of two days the week has been a poor one for the bee. Pears and plums have bloomed in vain, and the sycamores hang their pendants nectarless and unvisited by the bees in the bitter east winds. The rain on Saturday never ceased, so I determined to put slow feeders on all hives in order to keep the queen on the move. I find in unfavourable weather this is better than uncapping, there being less loss of heat and no disturbance, and with one hole only there is no likelihood of its being stored.

I am hoping for better weather soon, to finish my "spring cleaning."—WHITE CLOVER.

CYPRIAN BEES.

ARE SO-CALLED CYPRIAN QUEENS PURE?

[3986.] I see no necessity to add anything to our Editors' footnote (which has properly and correctly changed the intended bad effects of the opinion, on page 156, of our friend, Mr. J. E. Roden, into a strong defence of the true character and merits of the pure Cyprian race of bees), except to point out Mr. Roden's grossly misleading, though no doubt unintentional, error in saying that "early in May, 1890, he imported a pure Cyprian queen." Your correspondent having omitted the name of the country from whence the imported queen was sent, I may safely say that the so-called pure Cyprian queen was most probably sent to him from Munich, Germany, as in 1890, and, in fact, from after 1885 up to present time, there has never existed in this small island of Cyprus any queen-rearer or exporter—nor, indeed, any one able to do so—besides myself. This being so, I beg to add that from 1888 to 1896, inclusive, I did not export a single queen bee or bees from Cyprus. I wonder if Mr. Roden's so-called "pure Cyprian stock"—which he praises highly for their beauty and general character, and says nothing against them except that they did not endure the cold climate of Shropshire—could possibly be "Cyprians" after the lapse of five years? I make this remark on the faint chance that the grandmother of Mr. Roden's queen was, in 1885, exported from Cyprus by me or by Mr. F. Benton. If, however, I am wrong, I shall be glad to read any further report in this connection, and even in that case I would advise him to obtain from me at least three true Cyprian queens early this year for a fair trial in order to give a reliable report one way or other for the benefit of the British bee-keepers whose confidence I am enjoying by rendering them faithful service. It should also be said that although I feel great pleasure in sending queen bees, specially to the United Kingdom, the bee business does not constitute even a main part of the occupation on which my living depends, and in supplying them with queens of a race that French authorities on the subject, who received queens from me in 1898, have lately declared to be "the bee of the future" (*vide* the issue of "L'Apiculteur" for March last), notwithstanding what Mr. Roden says on page 156 about the wintering qualities of Cyprians, I invite the careful attention of British bee-keepers to the fact that in my article on page 104 (B.J., March 15), I have simply and exactly copied what the best British authorities on bee-keeping have said about the qualities of and hardiness of the Cyprian race by giving names of authorities quoted. I gave my own opinion and experience only in connection with the temperament of Cyprian bees without "painting their good qualities in glowing colours," as Mr. Roden says. Such an expression, made for no reason, sounds as if used merely for the purpose of discouraging those who wish to try the Cyprian bee.

The interest of dealers or rearers of black or common queen bees should not be allowed to stand in the way of improvements or the interest of apiculture in general.

The differences in quality existing between the races of each of the various kinds of animals living all over the world are undeniable.—M. G. DERVISHIAN, *Nicosia, Cyprus, May* 1, 1900.

BUYING DRIVEN BEES.

¾ LB. OF BEES AND THEIR WORK.

[3987.] Just now may be a good time to relate the adventures of a few bees. I sent to

an advertiser in the B.B.J. for a "lot" of driven bees. These arrived on August 3, 1898. On weighing box and bees, and after hiving the latter box alone, I found that my total weight of bees was only 1½ lb. I wrote the seller *re* the same, and he honourably acknowledged sending out "one small lot," and promised to forward a further supply to make up the deficiency. This he did the following week. It is the last-named lot which weighed ¾ lb. I propose to tell "the tale" about. Noting that the bees had a queen with them, and as the weather was still warm, I hived them in a makeshift hive, giving one drawn-out comb (empty) and four full sheets of foundation, intending to unite them on combs to the other lot, as these were only on a similar number. I, of course, put on a rapid-feeder and covered the bees up warmly. They carried down about 10 lb. of good thick sugar-syrup by the end of month, and a little nectar was still coming in. When I examined them the first week in September I was surprised at the (comparatively) immense number of eggs and brood, and thinking it a pity to kill so good a queen (I had no other use for her), I determined to chance the winter with them. I induced them to store a further 10 lb. of sugar by putting a heated brick wrapped in flannel on top of feeders at night, and then enclosing the makeshift in an outer case, with chaff between and a lump of candy on top, left them to do the best they could. So they stood until the spring of 1899. Being anxious I made a cursory examination the first week of March, and finding stores right gave them some candy and closed them down till end of month, Easter Monday being an exceptionally fine day I transferred them to a new "W.B.C." hive, and fitting the same at once with full sheets foundation in five more frames commenced feeding with a slow feeder. They then covered four frames, so that very little "spring dwindling" had taken place. The result of this early feeding was apparent, as when the expert of the S.B.A. visited me on April he advised supering this hive, which was the only one ready for this operation. This was done, and they took to the same at once. Noticing signs at hive entrance, which led me to believe they were on "swarming intent" in the last week in May, I took off super, examined the brood-nest, and found some queen-cells. These I destroyed and took three frames of brood to form an artificial swarm, filling gap with foundation. I replaced the super, which they continued to work in. I raised this one the second week in June, putting another underneath. To my great surprise about a week later I found a single queen-cell formed and sealed in the upper super. The hive was fitted with excluder zinc. I could not find with the naked eye, or with a watchmaker's lens, any further signs of eggs or brood. I destroyed the cell, and the bees made no further effort in this direction. I sent the comb to a photographer to get a lantern-slide made from same about three weeks after, and then gave the comb (which was well sealed on the opposite side, and fairly well on the side the cell was) away to a friend. To my surprise the negative, when developed, showed quite a small patch of eggs. It would be interesting to know why the bees deserted these, for they were on the hive nearly three weeks after the queen-cell was destroyed, and they further filled the cells with honey without clearing out the eggs, although they did not seal these cells. I am convinced that the eggs were carried up, because later in the season I tried in every way to induce the queen of the hive to go through the excluder that was on but without success. Altogether I took about 70 lb. of (extracted) honey from this hive, so that this year's work is as follows:—They drew out (with one exception only) the whole of the combs they used, *i.e.*, twelve standard and about twenty shallow; they gave three frames of brood to another hive, and yielded, as stated above, 70 lb. of honey, besides leaving them about 25 lb. in body-box. I confined them in September of last year to eight frames, which they covered, and left them until the last week in March of this year, and they have again beaten the other hives, as I have had them working in super (from fruit blossom) over a week. Although the queen must now be three years old or nearly so (I, of course, do not know her *real* age), yet she is vigorously laying, and there are only a very small number of drone-cells in the hive. I shall re-queen in the autumn, but shall take care that the queens I raise this year are all her progeny. I enclose a copy of photo of cell in shallow-frame.—WILL HAMPTON, *Richmond, May* 14.

Queries and Replies.

[2393.] *Queen-Rearing and Management of Nuclei.*—In thanking you for previous kindness I come to you again for help in my trouble. My difficulties to-day are regarding queen-breeding and forming nuclei. I have a few frame hives, of which I understand the management on many points. Still, I never have tried requeening, and you would confer a great favour if you could tell me if I rightly understand what I have been reading on the subject of nucleus hives and queen-breeding. 1. By what I can make out on the subject it seems that to obtain one or more queens it is sufficient to take one frame of eggs and of brood in various stages, with the bees covering it, and put that frame in a very small hive, just holding it, feed the bees and keep them nice and warm, and in a few days' time the bees will have selected one or more of the eggs or larvæ and start building queen cells round them. It will be left to me then to take any

of these queen-cells when about ripe and insert it in a comb of the hive I want to requeen, the old queen having been taken away previously. Is that right? 2. What becomes of the nucleus, supposing they have only built one queen cell and I take it away? 3. What becomes of the nucleus when the bees have built many queen cells, and I took one away, leaving the others to hatch? 4. What I am uncertain about is how only *one* frame of brood and bees is sufficient to form a nucleus and queens. I hope, Messrs. Editors, you will excuse the length of this letter, but I am doing my best to advocate bee-keeping in this country on less cruel principles than what has been done and carried on to this day, by the old method of destroying the bees at the autumn.—Y. DE MOIDREY, *près Pontorson, Manche, France, May* 9.

REPLY.—1. We fear you have not quite grasped the method, so proceed as follows:—When weather is settled and warm remove queen and four frames, two having brood and the other two well covered with bees. Place them in a small hive on a stand some distance away, and feed regularly. Three days later give to the parent stock a frame of comb containing eggs from the hive mentioned—first cutting out queen-cells started in the parent hive. The bees will build good queen-cells on the added comb. Your proposed further action, however, is right. 2, 3, and 4. If only one cell is built it must, of course, remain to requeen the hive, but probably five or six will be available, and all but one may be utilised by again dividing the stock and giving a cell to each nucleus so formed. The nucleus with one queen at the head will soon recuperate as bees hatch out.

[2394.] *Subduing Vicious Bees.*—After two years of bee-keeping in Colorado, U.S.A., I sold out an apiary of sixty hives and returned, intending to start bee-keeping here at home. Last year I let the season of prime swarms pass by through carelessness, and afterwards bought a poor stock of bees, which only managed to get strong and develop a terrible temper, the bees proving much more vicious than those two hives in the apiary where mine came from, which I could handle easily enough with the aid of a little smoke. I brought a very large American smoker home with me, with which I was accustomed to work in the States, but it does not do much good in subduing my vicious bees. I wish to ask which you consider the best way of subjugating such a stock. Do you prefer smoke or carbolic acid? and how is the latter mixed for use?—W. A. V., *Talbot-street, Dublin.*

REPLY.—Our experience is in agreement with that of nearly all bee-keepers in America, viz., that smoke is (used in a good smoker) the best of all bee subjugators, and one that is practically effective in all cases when properly used. Carbolic acid is used by damping a cloth with a solution made by mixing 1 oz. carbolic with 2 oz. water. This cloth is spread over the frames after removing the quilts. Take our advice, though, and use smoke in preference if your bees are troublesome.

[2395.] *Is Dysentery Infectious?* — Will you kindly inform me if dysentery is infectious? I have never seen anything of it before this spring. I have many combs taken from hives where the bees have died, many of them two-thirds sealed with natural food. In some instances the combs are wet and the moisture drops off them. Would there be any risk to set up swarms on them if I carefully scraped the exposed parts of the frames and removed the capping where it may be soiled—rejecting the worst of them? I am generally very successful in bringing my bees through the winter, and I packed them in the autumn just as usual, as far as I know.—AMATEUR, *Penryn, Cornwall, May* 10.

REPLY.—1. Dysentery is not infectious; the disease being caused by bees living on unwholesome or improper food, such as fermenting or unripe, watery honey, during and early spring. Long confinement in badly-ventilated hives also conduces to dysentery in winter. 2. If the combs referred to contain only sealed natural food there would be little or no risk in giving a frame of such comb to start a swarm after hiving if first dealt with as stated.

[2396.] *Destroying Combs to avoid risk.*—Could you kindly favour me by reporting on comb enclosed? I am greatly afraid it is a case of "the enemy," but should like your expert opinion before destroying, as the bees are fairly strong. I feel anxious to know at once as I have a lot of bees close beside the one this comb came from, and I believe all are healthy except this one. I therefore enclose cash for a line by "wire" in reply, and will wait fuller particulars on Thursday next. — SMOKER, *Stroud, May* 11.

REPLY.—Although observable only in a scattered cell here and there among a good deal of normal brood in various stages there is foul brood of very pronounced type in the cells referred to. We should, therefore, in order to avoid risk to the many healthy stocks surrounding the affected one, strongly advise destruction of combs and frames; and unless you have time to carefully attend to the bees after removing them from the combs and disinfecting the hive before using again, we would make a clean job by destroying the whole lot at once.

[2397.] *Removing Combs to Prevent Swarming.*—1. Will a queen bee continue laying all through the season in a strong hive if a frame of good worked-out comb is inserted in centre of brood-chamber every few days? The displaced comb would be transferred to the super, which latter is separated from brood-chamber by excluder zinc. A swarm-preventer box also to be used under brood-chamber? 2. What

kind of bee will answer best for this purpose? —T. M., *Forest Hill, London, May* 10.

REPLY. — 1. We see no advantage to be gained from dealing with a "strong hive" on the proposed plan. It involves constant disturbance of both brood and surplus chambers, mainly with the object, as it seems, of diverting the latter from its legitimate purpose of storing honey by converting it into a second brood-chamber from which the queen is excluded. You will succeed far better by adhering to the more orthodox plans which have stood the test of time in the hands of experienced men. 2. Why not put the swarm-preventer box to its intended purpose, viz., giving room for comb-building below (to avoid over-crowding) and removing the combs as built to a place overhead for use as surplus chambers? This will give far more satisfactory results.

[2398.] *Suspected Foul Brood.*—I thank you very much for reply to my query on page 187 respecting foul brood from driven bees, and, as desired, I enclose the only piece of comb containing brood in for your further inspection, and kindly reply in B.B.J. As already said, bees were put in a "Wells" hive made on the M.B.C. pattern, and if you declare it not foul brood, I shall give the hive and floor board a good cleaning to make it ready for swarms. But if you say there is foul brood, I shall burn the brood-chamber and floor-board, along with frames and combs, for I would rather sacrifice the whole lot than have any danger from the bee-keeper's enemy—foul brood.—A YOUNG BEE-KEEPER, *Annfield Plain, Co. Durham.*

REPLY.—There is no foul brood in comb sent, and consequently no need to burn frames even, but the combs we should certainly get rid of as being old and rather offensive.

Echoes from the Hives.

High Fords, East Sussex, May 10.—We seem to have passed from winter into summer with but a few short days of spring between. My first examination of stocks for the year was long delayed, but the result is fairly good. Most of the hives are strong, the exception being those made up of driven lots of bees. One lot which I got from the roof of a house were very weak, though they were a big stock when taken. However, it seems that judicious feeding is putting them right. I found one hive with brood in ten frames when examined on May 3, so I put on supers, and the bees are now filling them very fast. I also went over six colonies for a friend and found all of them in good condition. In another apiary of twelve stocks six were dead, mainly through "robbing," I think. The weather, as I write, is anything but grand from the bee-keeper's point of view—cold north winds blowing, and cloudy overhead. The orchard in which my hives stand is a mass of bloom, as are many similar orchards in the neighbourhood. All we want is fine weather at once, for our harvest is usually an early one.—HENRY CLARKE.

Bee Shows to Come.

June 6 to 9, at Winchester.—Show of Honey Hives and Appliances, Hants and Isle of Wight B.K.A., in connection with the Royal Counties Agricultural Society. Schedules from E. H. Bellain, Hon. Sec., Winkerton, R.S.O., Hants.

June 18 to 22 at York.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. Edwin H. Young, Secretary, 12, Hanover-square, W.

August 3, at Exeter.—Devon B.K.A. Annual show of bees, honey, and appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from Hon. Sec. Devon B.K.A., Park House, St. Thomas, Exeter.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show, in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Schedules when ready from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

September 8 to 15, at the Agricultural Hall, London.—Honey show in connection with the Confectioners', Bakers', and Allied Traders' (5th) Annual Exhibition and Market. Classes for comb-honey in sections. Extracted honey and honey trophy medals, diplomas, and liberal prizes. For full particulars and schedules see large advertisement in this journal. **Entries close August 21.**

September 22 to 29 at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for comb-honey in sections, for extracted honey, and for honey trophy. (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. H. (Devon).—*Suspected Foul Brood.*—The sample No. 1 contains spores only of foul brood in the dried up scale left in cells. Nos. 2, 3, and 4 are free from disease, the brood seeming in normal condition and hatching out freely.

J. LING (Shady Camp).—*The Law on Keeping Bees near Public Roads.*—We rather think the Road Inspector who informed you that it was "unlawful to keep bees at a less distance than fifty yards from from a public road" has been either himself misinformed or is "speaking off the book." We know of no law prohibiting bee-keeping in any place unless it can be proved that the bees are a source of danger and a nuisance to those dwelling near them, or to persons passing along the public road in the vicinity. You might, therefore, inquire (without

giving offence) on what legal enactment the officer referred to relies for the warning notice given. This done we will—on receipt of a line from you—advise further on the subject.

R. B. CAMPBELL (Cornwall).—*Insect Nomenclature.*—The insect sent is *Creophilus maxillosus*, a beetle which is found generally on carrion, and frequents the vicinity of bee-hives in order to feed on the dead bees and larvæ that are turned out.—F. W. L. S.

C. D. G. (Soham). — *Dealing with Foul Brood.*—1. Along with a great deal of brood in normal condition—the greater proportion of which would, no doubt, have hatched out if left in the hive—there are in the full frame of comb sent a few cells containing unmistakable foul brood of pronounced type. It, therefore, is a matter of skill, time, and convenience whether the bees should be got off the combs and dealt with as a swarm in a clean hive, or allowed to go on as they are till the honey season is over, before being so treated. It is not uncommon for bees similarly affected to the stock in question to gather a good amount of surplus when so strong in May as your colony is. 2. So far from the preventions used having proved useless, it seems to us as if they had done a good deal in checking the progress of the disease. But in order to properly understand the difference between antiseptics and germicides, we refer "C. D. G." to our issue of June 29 last year (page 251), where an exhaustive article on the subject appears from the pen of our senior editor, Mr. Cowan.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

EXTRACTOR (once used) FOR SALE, cheap. J. W. BRUCE, Largoward, St. Andrew's, Fife. 908

SWARMS of superior BEES, 10s. 6d., 12s. 6d., and 15s., packed free. JOHN WALTON, Honey Cott, Weston, Leamington. 907

FOR SALE, 56 lb. good BEESWAX, in 6 or 12 lb. cakes, 1s. 6d. lb. Deposit system. DUTTON, Terling, Essex. 905

FOR SALE, seven STOCKS of BEES, in bar-frame hives, and three STOCKS in skeps, in good condition. F. YOUNG, Studley Park, Ripon. 904

SPLENDID, healthy, prolific QUEENS, 4s. 6d. each. Immediate delivery. J. THORP, 3, Albert-terrace, Fairfield, Buxton. 902

FOR SALE, twelve COLONIES of BEES in straw skeps; all gave swarms last year; packed free on rail; 10s. 6d. each. Apply, HICKSON, Blanchard's Hotel, Scarboro', Yorks. 909

FOR SALE, quantity Bee-keepers' Sundries; Hives, newly painted, 5s. each; Standard and Shallow Frames with metal ends, used once; quantity new. Packed free. S. J. COOPER, Nicholas-square, Leicester. 906

EMPTY BEE-HIVES, Standard size, first-class order, 5s. each. Also Wells' hive, unused; most approved pattern. What offers?—WILSON, Auburnville, Holywood, Belfast.

Prepaid Advertisements (*Continued*).

FOR SALE, few good, healthy STOCKS of BEES in carpenter-made bar-frame hives, with supers and built-out combs complete. 1899 queens in forward condition. DUTTON, The Byrnn, Weaverham, near Northwich. 903

FOR SALE, a few STOCKS of BEES, ready for supering end of this month, in bar-frame hives; good condition. L. BAILEY, 55, Park-road, Leek, Staffs.

BUY SWARMS from a district where foul brood is unknown. Prices: 10s. 6d., 12s. 6d., 15s. Package free. J. MORGAN, Upper Boat, Pontypridd. 885

NATURAL healthy SWARMS, forwarded day of issue, 10s.—JOHN WOODWARD, Hadbury, Pershore. 898

ANNUALS for CUT FLOWERS, any height or colour, 2s. per 100. Carriage paid. GUTHRIE BROS., Alloway, Ayr. 899

A FEW NATURAL SWARMS to part with. Foul brood unknown. Boxes free. 10s. Soon as ready. RAYNHAM, Cotton Hall, Stowmarket. 893

SWARMS, packed in skeps, and rail carriage free, 12s. Cash with order. MRS. KIME, Mareham-le-Fen, Boston. 896

SWARMS of ENGLISH BEES, '99 Queens 2s. 6d. lb. Box to be returned. GARNER, Broom, Biggleswade, Beds. 900

1,000 LB. HONEY FOR SALE, cheap. 40 lb. sent on approval. Apply, JOHNSON'S APIARY, Soham, Cambs. 866

FINEST Prolific Queens, Stocks, Nuclei, and Swarms. Queen-rearing a speciality for 13 years. List free. Rev. C. BEERETON, Pulborough, Sussex, F.N.

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 828

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. SIMMINS, Heathfield, Sussex, F.N.

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

PROLIFIC QUEENS, 5s. now. Orders requested for stocks, swarms, nuclei, and home-bred queens—Italian, Carniolan, and Black. E. WOODHAM, Clavering, Newport, Essex. 878

"W.B.C." HIVES, FEEDERS, SWARM CATCHERS. Make your own at third the cost. For particulars, send stamp to PRIDEAUX, Whitchurch, Salop. 777

TANNED GARDEN NETTING.—25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Only best quality supplied. L. WREN & SON, 139, High-street, Lowestoft. 818

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 14s.; tie-over, 11s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster. F.N.

STRONG NATURAL SWARMS, with '99 fertile Queen 12s. 6d. travelling cases 1s. or returnable. Second swarms with young Queen 8s. 6d. Three-frame Nuclei with Queen, 12s. 6d. Guaranteed healthy. WOODS, Normandy, Guildford. 901

BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. EDWARD REYNOLDS, Glove Manufacturer, Andover.

SWARMING SEASON, 1900. — Healthy Natural June Swarms of Woodley's selected strain of English Bees, 10s. 6d., 12s. 6d., and 15s.; headed with 1899 queens. Boxes and packing free. Safe delivery guaranteed. Orders in rotation. W. WOODLEY, Bee Farmer, Beedon, Newbury. Telegrams: "Woodleigh Chieveley." Free delivery.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 17th inst., at 12, Hanover-square, W., Mr. W. H. Harris occupying the chair. There were also present Miss Gayton, Hon. and Rev. Henry Bligh, Rev. W. E. Burkitt, Messrs. R. T. Andrews, H. W. Brice, W. Broughton Carr, J. M. Hooker, J. H. New, W. F. Reid, W. J. Sheppard, E. D. Till, F. B. White, and the Secretary. Letters explaining enforced absence were received from Messrs. E. Walker, A. Watkin, and C. N. White.

The minutes of the previous meeting were read and confirmed.

Mr. Peter Shackleton, Old Bank House, Burnley, was duly elected to membership.

Mr. Till, on behalf of the Finance Committee, presented a Statement of Receipts and Expenditure to date, the Report being adopted.

In response to applications received, the Council made nominations of Judges and Examiners in connection with Shows or Examinations to be held at Beddington, Chingford, Lincoln, Stafford, Norfolk, York, and the Confectioners', Grocers', and Dairy Shows, London.

The Secretary reported result of an interview with Mr. Colam, of the Royal Society for the Prevention of Cruelty to Animals, in regard to accommodation for meetings of the Council at 105, Jermyn-street, S.W., and, after discussion, it was unanimously resolved to revert to the original time for meetings, viz., 4 p.m. on the third Thursday in each of the following months :—July, September, October, November, and December, 1900, also January, February, and March, 1901. In consequence of the "Royal" Show at York, no meeting will be held in June.

A mass of correspondence on various matters other than of general interest was laid before the Council for consideration, and the Secretary fully instructed in regard thereto.

The remainder of the sitting was occupied by impromptu lectures on the part of four candidates for first-class expert certificates.

IRISH BEE-KEEPERS' ASSOCIATION.

A meeting of the Committee of the I.B.K.A. was held at Dr. Traill's rooms, Trinity College, Dr. Traill, Vice-President of the Association, in the chair.

Several accounts were presented and passed, including those of Messrs. Abbott Bros. and H. Cooper for the bog-oak box and illuminated card respectively for the present of honey to her Majesty the Queen.

The Chairman, in a felicitous speech, presented Mr. Chenevix, late Hon. Secretary, with the address and purse subscribed by members of the Association. The address was as follows :—

"To Henry Chenevix, Esq., J.P.

"From the Irish Bee-keepers' Association.

"Dear Sir,—We, the members of the Irish Bee-keepers' Association, take the present opportunity to acknowledge with gratitude the service which you have rendered to the Association during the thirteen years in which you have with rare devotion, zeal, and efficiency filled the office of Hon. Secretary.

"Your unfailing courtesy has won our esteem, and the soundness and present usefulness of the Association is to be attributed mainly to the careful manner in which you have managed its business and looked after its funds.

"We therefore ask you to accept this address and the accompanying purse of sovereigns as a small token of the regard in which you are held by us.

"Signed on behalf of the Association,

"Ardilaun, President.

"Anthony Traill, Vice-President.

"Matthew Hy. Read, Hon. Sec."

A vote of thanks was unanimously accorded to the Congested Districts Board for their kind offer to supply copies of their "Manual of Instruction in Bee-keeping" to the Association at the bare cost of production.

WARWICKSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the members of the above Association was held at the Grand Hotel, Birmingham, on Tuesday, May 1, Dr. Savage presiding. The twentieth annual report recorded the continued progress of the Association, sixty-nine new members having been enrolled, as against fifty-eight in the preceding year. The income amounted to £96 and the expenditure to £79, leaving a surplus on the year's working of £17. The Committee regretted that, owing to the Warwickshire Agricultural Society refusing to make a grant to the Association for the purpose of assisting in making an apiarian exhibition in connection with the county show at Leamington, they were compelled to abandon the project. A great amount of enthusiasm had, however, been manifested in the demonstrations given under the auspices of the Warwickshire County Council by the Association's expert (Mr. Franklin), and to such, together with the expert's spring and autumn tours, the Committee attributed in a great measure the highly satisfactory increase of new members. Negotiations were on foot with a view to opening depots in the southern part of the county for the sale of members' honey. The report was adopted on the motion of the Chairman, who spoke of apiculture as a source

of profit to the cot'ager, seconded by Mr. A. H. Foster. Lord Leigh was reappointed President, and the other officers were re-elected. A discussion on apiculture followed. —(*Communicated*)

NORTHUMBERLAND AND DURHAM B.K.A.

ANNUAL MEETING.

The annual meeting of the above Association was held at Lockhart's Café, St. Nicholas-square, Newcastle. Mr. T. Russell, Felling, presided over a representative meeting.

Mr. J. N. Kidd, Secretary, in the unavoidable absence of the Hon. Treasurer, Mr. Wakinshaw, read the annual report for 1899, which gave particulars regarding the various successful honey shows held under the auspices of the Association at Felling, Gateshead, Wooler, and Newcastle.

An excursion to Edmundbyers proved equally successful, about 300 hives being carried to the moors for the heather-honey flow.

The Association is now firmly established, a result mainly attributable to the efforts of Mr. Kidd, who has been Secretary since its formation seven years ago, but who, owing to pressing duties, had resigned the post, to the general regret of members.

Mr. Jas. Waddell, Wooler, was elected as Hon. Secretary. The other office-bearers were re-elected. The programme for 1900 contains features similar to those last year. After the usual business had been transacted the meeting resolved itself into a social evening, and various interesting matters bearing upon apiculture were discussed.—(*Communicated.*)

DIFFICULTIES IN DEALING WITH FOUL BROOD.

READ BEFORE THE CALIFORNIAN STATE BEE-KEEPERS' CONVENTION.

By Thos. Wm. Cowan.

Those who have had very much to do with foul brood will readily admit that, for the average bee-keeper, there are many and serious difficulties in connection with this disease which battle him, and can be overcome only by an intelligent mastery of the subject. The disease is allowed in many cases to break out and spread, without the slightest precaution being taken, sometimes through ignorance, carelessness, or indifference on the part of the bee-keeper, to the detriment of others keeping bees in the vicinity. In consequence of this it is no wonder that foul brood is spreading, and that there is a demand among intelligent bee-keepers in all countries for legislation to prevent the industry from being destroyed. To be brief and concise, I will mention only some of the difficulties we have to encounter in making people understand the conditions under which the disease exists, or to study its etiology:—

1. That foul brood is terribly contagious, and that as great care should be exercised in dealing with it as with smallpox or cholera. What these diseases are to man, foul brood is to bees.

2. That foul brood is a germ disease, and is produced by the presence of a minute organism called *Bacillus alvei*, which exists in two different forms. In the earliest stages of its existence it is in the form of a rod, and is usually then termed *bacillus*, to distinguish it from the later stage, or *spore*, as it is then commonly called.

3. That there is a great difference between these two stages; and as both may exist in the hive at the same time, the treatment that would destroy the one would have no effect upon the other.

4. That *Bacillus alvei* is in form rod-shaped; and each rod, as it attains full growth, splits in two, each of these taking up an independent existence, and going through the same process; and as two generations can be raised within one hour, the same rate of progression being kept up by each individual, it is not astonishing that foul brood spreads so rapidly.

5. That under certain conditions bacilli have the power of forming spores which are analogous to the seeds of plants, and are endowed with wonderful vitality, being able to endure adverse influences of various kinds, without injury so far as their germinating powers are concerned. Boiling water and freezing will kill bacilli but not their spores. In the same way chemical reagents which readily destroy bacilli have no effect upon the spores unless given in such strong doses as would kill the bees. (It is extremely difficult to make the people understand this great difference in the vitality of bacilli and their spores, and it is here that the great danger arises.)

6. That the spores coming in contact with suitable nutrient material have the power to germinate into bacilli, after the lapse of long periods; and according to Dr. Klein, one of our best authorities, there is no reason to assume that these periods have any limit. This is why the disease sometimes breaks out in districts where bees have not been kept for years.

7. That experience has shown with foul brood, as in all epidemic diseases, the weak, sickly, and badly nourished are attacked and become centres of infection to others; and so rapidly does the disease spread by contagion that, unless precautions are taken, a whole neighbourhood may become affected in a short time.

8. That colonies suffering from foul brood are usually weak, and this induces bees from other hives to rob them of their honey, and thus carry off the germs of the disease along with their ill-gotten gains.

9. That combs which have contained foul

brood retain the spores. The queen lays eggs in the cells, and the workers deposit their honey and pollen in the latter. Both honey and pollen in this way become vehicles for the transport of the disease to the larvæ in the process of feeding by the nurse-bees. The workers, in endeavouring to clean the combs, scatter the spores, which may also be driven out of the hive by the current of air produced by the fanners at the entrance in their endeavour to rid the hive of foul odours.

10. That, if on examining the combs, to all appearance healthy, with brood compact and larvæ bright and plump, we find here and there a cell with young larvæ moving uneasily, or extended horizontally instead of being curled up, and changing to a pale yellow colour, we at once detect the first symptoms of foul brood. The germ at this stage being only in the rod form, the further progress of the disease may be arrested by feeding the bees with syrup, to which a suitable antiseptic drug is added. The bees then generally remove the dead larvæ.

11. That apart, however, from experienced bee-keepers or trained experts, very few are fortunate enough to detect the disease at such an early stage, or effect a cure so easily.

12. That when the combs have irregular patches of brood, with sunken and perforated cappings to the cells containing the putrid, coffee-coloured, ropy mass inside, the treatment should be as follows :—

(*a*) If the colony be weak, destruction of bees, combs, frames, and quilts, together with thorough disinfection of hives, is by far the best course to pursue. We thus destroy the spores, and so remove the source of infection.

(*b*) If, on the contrary, the colony be still strong, the bees may be preserved by making an artificial swarm of them, and feeding them on medicated syrup for forty-eight hours, after which time they can be placed in a clean hive furnished with sheets of foundation, and fed with medicated syrup for a few days longer. The combs, frames, and quilts are burned, and the hive disinfected by being either steamed or scrubbed with boiling water and soap, and then painted over with a solution of carbolic acid ; and when the smell has disappeared, the hive is ready for use. (The bees are allowed to remain forty-eight hours in the empty hive, for by that time the honey that they may have taken with them, and which might contain spores, will have been consumed, and the diseased bees will have died off.)

13. That in his endeavours to rid his apiary of foul brood, the bee-keeper must also raise to its proper standard the lowered vitality of the bees which enabled the disease to get a footing. This he must do by keeping his bees strong with young and prolific queens, good wholesome food, cleanliness, and proper ventilation.

14. That the bee-keeper may himself be a cause of spreading foul brood by indiscriminately manipulating, first diseased and then healthy hives, without taking the precaution to disinfect himself or his appliances. Clothes, appliances, and hands should be washed with carbolic soap, and other articles disinfected by spraying with some suitable disinfectant.

These are only a few of the many difficulties, and only the fringe of the subject has been touched upon ; but sufficient has been said to show that, unless great precautions are taken, it is very difficult to get rid of the disease. It thus becomes obvious that those who fail to realise the danger of infection, and who will not take proper means of ridding their apiaries of foul brood, or of preventing its introduction, are a real danger to the industry.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[3988.] We have had a spell of cold, dry, sunless weather during the past week or ten days, varied only by a few short gleams of sunshine, with the result of retarding bee-work. In Berks, however, we have had no snow, as have our more northern friends ; yet a week ago the general remark was, "It's cold enough for snow!" In our own apiaries we have had no swarms so far ; yet I heard of one about 1½ miles away, and this, I hear, has required feeding to keep the bees alive. To-day the weather has improved, the wind veering round to south-west ; and, with the barometer sinking, we are hoping for rain, which is very badly wanted by every one and by every kind of crop. Water is scarce on some farms, the ponds being empty, and farmers are compelled to draw from deep wells, while, labour being scarce, most farms are short of hands, so there is no prospect of an improvement in that direction. All that the County Councils have hitherto done in teaching gardening, fruit-growing, dairying, and bee-keeping does not seem to stem the exodus of the countryman towards the towns, so that the older generation are gradually dying off, and those of the growing generation are looking for "something better than farm work" —so they say. For my part, I think the matter will have to be dealt with by our Legislature in the near future, or the consequences will be serious in country districts. Our bee-keeping industry, notwithstanding its apparent growth as shown by statistics, is gradually

declining amongst agricultural labourers; new methods with modern appliances being beyond the grasp of the labourer either financially or mentally, and the old style "crock" (or red pan) holding 15 lb. to 30 lb. of honey is practically unsaleable at the present time. I hear of two or three who—after keeping bees in straw skeps for many years—have given up bee-keeping altogether. Their complaint is, "no sale for honey," or "bees don't pay to keep—in the old-fashioned way," and they were "too old to start anew."

Selling Honey.—I notice some of our friends are still able to realise a good price for their honey. Regarding low prices, "White Clover" says (on page 196) "bee-keepers have the remedy in their own hands," that he disposes of his surplus locally at good prices. This may be possible in some places, but I can assure him that in a district where nearly all the population are agricultural labourers interspersed with a few "agents" or bailiffs he would have great difficulty in selling, and if his price was more than 6d. per lb. he would not sell half-a-dozen pounds to the labourers during the whole year. Then if you sell at 6d. to the labouring man, the village gossip tattles about the price when she goes washing or charing, and her employers' wives (who are keen on bargain hunting) therefore want some of the 6d. honey when the honey-jar is empty. They think, perhaps, they "will like it as well as the 7d. or 8d. supplied last time." This is how things work out here. Now our friends who are located in these "live and let live" districts would be doing themselves and their less fortunate brethren in the craft a service if they would still keep the trade going, and, after selling out their own honey, take some from their less fortunately situated brothers. They could do this with profit to themselves, while helping others in more ways than one.

Cleanliness in Hives.—I overhauled a few hives for a lady a day or two ago, and put on some supers. One of the hives I made and supplied myself some ten years ago, and I do not think that it had been once cleaned or scraped out during the whole time it has been in use, nor had a particle of propolis or brace-comb been removed from the tops of frames. Yet the combs were in fair order and the colony in excellent condition, as shown by having queen-cells started and a little new honey sealed along the top of combs. My first task was to remove a rack of sections left on (empty so far as honey and combs) last year. I then scraped away the brace-combs and heaps of propolis; the sections were also bedaubed with propolis in every spot within reach of the bees in their endeavour to fill the crevices. It makes one ask where could any pleasure in bee-keeping come in with hives in such a condition? "Not a section of honey taken last year, and only a few unfinished ones the year before," was the plaint, so that there has been no profit either.

Wax-Moth Larvæ.—A sharp look-out should be kept when working among the bees; the larvæ often locate themselves under the ends of the frames or around edges of dummies, and as soon as a brood-nest is disturbed they may be seen crawling to a place of safety, though very often the bees take them by the neck and bundle them out of the hive. I always make a point of killing every one, and the edge of the scraper drawn along the saw-cut in the top bar of frames destroys any that may be lurking in the crevice. Old combs should be rendered into wax, and hives not in use scrubbed out before putting away, as these are often found to be veritable nests teeming with larvæ of the wax and other moths.—W. WOODLEY, *Beedon, Newbury.*

TAKING BEES TO INDIA.

[3989.] Allow me to thank you for the insertion of my query, "Taking Bees to India," &c., and also the two gentlemen who have been so kind to reply—Mr. Sladen and the Rev. W. Horsfall. I live in the Island of Ceylon, at Newara Eliya, which is in the hills, and my estate is 6,200 ft. above sea level; the climate is cool, but damp, and we get a few degrees of frost in February. The bee, *Apis mellifica*, is the one I tried, and they do well in the forests about Newara Eliya. The difficulty which I could not overcome was getting the bees to stay in the hive. After a few weeks they cleared off. Should I have tried to prevent this by placing a piece of queen-excluding wire before the entrance of the hive? If I sent a piece of the comb to England, could I get the foundation made to the size? —E. GRITTON GRINLINTON, *Stockbridge, Hants, May* 19.

[It would be possible to get zinc with circular perforations such as were first used in this country to exclude the smaller sized queens, but to have oblong perforations made smaller than those now used would need special cutting-punches, and be, therefore, too costly. —EDS.]

CYPRIAN QUEENS.

ARE THEY GOOD WINTERERS?

[3990.] Referring to the question of the good or bad qualities of pure Cyprian bees, which has been discussed in your pages, may I be allowed to give my experience:—On October 1, 1899, I received from Mr. M. G. Dervishian, of Cyprus, a Cyprian queen and successfully introduced it to a queenless colony. The whole of my fifteen stocks have come safely through the winter all seeming in good order; and on April 19 last, I had a look into some of the hives for the first time this year. The first stock I examined was the Cyprians, and on quietly lifting the frame on which the queen was noticed, she was in the act of laying. There was a lot of brood in all stages in the several combs, and plenty of

young yellow bees with every appearance of its soon being a very strong colony of handsome bees. I may also say that the bees seem quite gentle in disposition, for I had to go over the frames twice, having missed the queen the first time. I wore a veil, as is my custom, but used no smoke ; nor did I do anything at all to frighten the bees, which did not make the slightest attempt to use their stings. I am getting my first drones raised in this colony, so that they may be beforehand with the blacks for fertilising purposes.

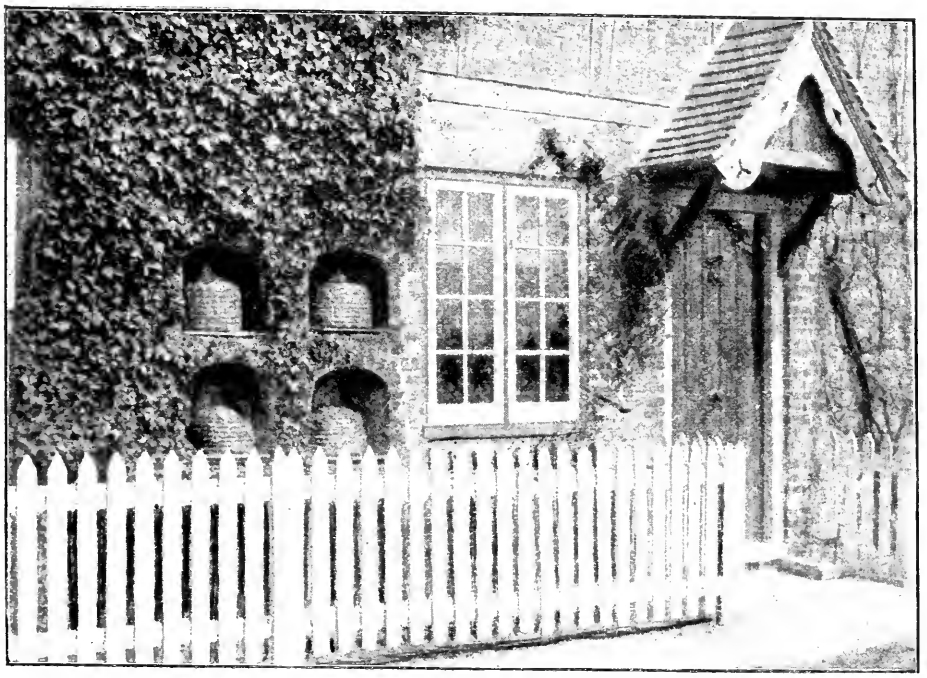
The next hive I examined was a cross-bred stock, and the difference was remarkable, for although treated the same the bees proved champion stingers! As soon as the quilt was lifted I heard the well-known "high note," and in a few seconds I had as many stings in my hands as I have fingers ; so I gave up quick, and got the quilt on again without more delay than I could avoid. That lot will get some smoke next time I tackle them.

I trust the Cyprian bees may go on as they have done so far as my experience of them extends, for I am led thereby to expect something exceptionally good from them. Some of my bee-keeping friends tried last year to make me believe that a Cyprian queen would not live through the winter in so cold a part of the country as I am located in, but I am pleased to say they were entirely wrong, as what I have written above proves.—MATTHEW SMITH, *Townhead Farm, Dumfriesshire.*

OLD-TIME BEE SHELTERS.

[3991] I read some time ago with much interest an article in your paper on the old method of sheltering bees in recesses built in walls.

The writer asks for information about a wall at Kemsing, similar to the one at Eynsford, Kent, of which a picture is given on page 505 of B.B J., dated December 22, 1898. I think the wall referred to is at Heaverham, a little hamlet between Kemsing station and Kemsing village, and am pleased to be able to send a photograph of the same as being likely to possess some interest for your readers.



AN OLD-TIME BEE SHELTER AT HEAVERHAM.

I am told there were two more alcoves above those seen in the picture, but they have been bricked up, and the busy little occupants of the pretty old skeps have been banished from their homes for some thirty years.

Some of the older inhabitants remember these shelters being used, and do not seem to know why the bees were done away with.

Probably since the railway has been opened there is more traffic on that road, and the shelters are so near that any one can easily put their hand over the railing and reach into them, therefore, and although the days of bee-stealing are over, hives might be a little too near the passers-by, particularly in swarming time. — E. SCOTT WALKER, *Heaverham, Kemsing, Kent.*

SELLING HONEY ON SUNDAYS.

[3992] Your correspondent "White Clover" (3985, page 196), under "Selling Honey," says: "How should I do it? Well, I should just put one of Mr. Rose's 'Honey for Sale, from our own Bees,' in a conspicuous position, and *should spend the best part* of Saturday and *Sunday in selling honey to the passers-by.*"

The words which I have marked in italics are bad. I take the strongest possible objection to devoting "the best part of Sunday in selling honey to the passers-by," for Sunday is a day of holy rest, not one for trade purposes. We have too much Sunday trading, without adding to the mischievous practice. I happen to be located between two watering-places much frequented in summer, but I for one will not tolerate the sale of honey on that day (though I have a great many "passers-by") and enlist myself with Sabbath-breakers.

I hope, therefore, that bee-keepers will not follow such unwise advice and profane God's day.—J. QUARTERMAIN, *Tenby, May* 19.

[We have received other and similar adverse comments for publication bearing upon the question of Sunday trading. The above will, however, suffice to serve the good purpose intended.—EDS.]

Queries and Replies.

[2399.] *Drone-Breeding Queen.*—I forward you a queen (accompanied by three worker bees) for inspection. She was removed yesterday because of my finding no worker brood in the hive, only a little drone brood. I have therefore superseded her. Can you tell from her appearance the cause of her "uselessness"? Is she an old queen or a young "unfertilised" one? She came through the winter in the colony from which I took her, but the hive was wintered without any quilt on the top of the frames, and it is a marvel that all the bees did not die. I may mention the hive belonged to a friend for whom I examined it, and the queen does not appear to have laid any eggs lately, but the stock is fairly strong in old bees and has a fair number of young drones. I shall be obliged for reply through B.B.J., which I take.—RICHARD N. BERESFORD (Canon), *Incumbent of Inistioge, Ireland.*

REPLY.—The queen and bees arrived dead. Our reverend correspondent should bear in mind that loaf sugar (enclosed in match-box along with the bees) is entirely useless as food for bees. The dead queen is an adult, but bears no appearance of being either unfertilised or worn out. Her sterility is therefore due to some other cause for which we cannot account.

[2400.] *Keeping Bees on House Roof.*—I commenced bee-keeping in a small way two years ago in Surrey, aided only by the "Guide Book" and B.J., and with these, together with what I learned from bee-keepers, I did very well. On removing to Portsmouth in autumn of '98, I brought five colonies with me, two in "Wells" and the others in ordinary frame-hives. The bees wintered well and gave me about 1 cwt. of honey last year. The railway company, however, purchased the ground, and failing to sell the bees last autumn I was compelled to remove them, and so I laid a temporary floor over my ceiling joists and made some bee exits between the slates of the roof into a gutter, my roof being a double span one.

All went well until the beginning of March last, when I found one side of "Wells" hive empty (no bees), but about 16 lb. of honey properly sealed over in the combs. The stock in adjoining compartment was not so extra strong as to make me think the bees of the vacated part had joined them. Two of the single hives were very strong, the other had only bees on three or four frames—plenty of stores in all hives—about 7 or 8 in. of air-space in front. Each hive had entrances enlarged to 7 or 8 in. for winter, with floor-boards sloping from a $\frac{1}{4}$ in. at the back to 1 in. in the front. At the beginning of April I found the bees had dwindled down in every hive, and a week later had disappeared entirely, except a few in two single hives; these lots I joined together and put them in a clean hive and gave a little syrup as per "Guide Book," and there is now a little brood, but the stock is very weak (perhaps one quart of bees), but busy at work.

Now the only reason I can give for this is that the bees have suffered from dysentery. They discharged their excrement very freely on the alighting boards and on the boards sloping from the hive to the exit under slates, and I found several hundred dead bees in the gutters and on the roofs, but not a sufficient number to account for the disappearance of colonies; their discharge was rather muddy and offensive to the smell. I have given a full outline of the case to enable you to answer the following questions, if you will kindly do so:—1. Is the place unsuitable (*a*) owing to the heat of the house ascending to the ceiling; (*b*) the fact of the bees being compelled to leave the roof facing due north, is the contrast from heat to cold too great for them? 2. Is the comb enclosed affected with disease? If not, is it advisable to keep the standard brood-frames with sealed stores in for further use (I have broken up about thirty already and run the honey out), or should I melt them down? 3. What is the white substance in two or three of the cells? I believe honey granulated; if so, is it harmful to bees? I may add that there is plenty of room to manipulate the bees and plenty of light to see, but although I had a separate exit through the roof for each hive the bees did not seem able to find their way back to their hives. I

wondered if the slope of the board up from the alighting board to the roof had anything to do with it. The bees ran up all right but seemed to decline coming down into the hive again; each board was 4 ft. long and 9 in. wide, rising about 8 in. in its entire length.

I have been very much enlightened by your valuable journal; I have only had to wait and nearly all my difficulties have been answered by you in your advice to others. I should be sorry to have to give up bee-keeping, for it is so interesting as a home pursuit.—E. DORE, *Portsmouth*.

REPLY.—1. From the rough sketch sent we attribute the loss of bees entirely to the arrangements for egress and ingress to the hives, and the exposed position on the house-roof disconcerting the bees and causing continual loss of bee-life. With all its supposed intelligence the bee is very easily nonplussed, so to speak, in finding its way to the hive, and to allow only of an entrance between the slates of a span-roof—with a long narrow board inside leading to the hive—has caused the mischief. An exposed windy position such as that described would no doubt also contribute to the trouble. 2. There is no disease in comb sent. 3. The "white substance" in cells containing food is granulated honey, and the similar coloured matter in other cells is hard mouldy pollen.

[2401.] *Bees Transferring Themselves. Size of Surplus-Chambers.*—1. In reply to your request on page 188 last week I beg to say the skep in question is not at all strong, and on examining it to-day I find no trace of queen-cells nor (as far as my eye could see) a cell of food or brood. I have continued feeding, and out of three-quarters of a pint of syrup given on the 13th only half a pint was taken down. The bees, too, are inactive and skep is light in weight. 2. The two skeps, which were placed on top of frames of foundation (with piece of American cloth between, with hole 4 in. square cut out of centre of cloth) on April 28, have not started building out any of the combs yet. Is this unusual? They are fairly strong in bees. Will they eventually work out the frames? 3. When should supers be put on stocks, the brood-frames of which are fairly covered with bees and containing stores and brood? 4. Is it good policy to super with empty combs of standard size, *i.e.*, $8\frac{1}{2}$ in. deep? 5. Should supers be filled with the combs or part now and part later?—W. H. B., *Dawley, Salop*.

REPLY.—1. The details now furnished make it safe to say the bees are queenless, and, being few in number, the stock is practically worthless. 2. Adverse weather, almost continuous since the date when skeps were placed above top-bars of frame-hives, will, of course, have retarded the "taking possession" of lower hive until more prosperous times, when the bees will no doubt build out the new combs, and establish their brood-chamber below. 3. The time for giving surplus-chambers is when warm weather prevails and honey is coming in well. Beyond this it only needs that bees are so strong in numbers as to cover all combs in the hive. The visible signs of super-room being wanted are to see the outer edges of combs bearing a white appearance, as if being lengthened out to increase the holding capacity of the cells. 4. We think you will find it better policy to use shallow-frames for surplus-chambers. 5. The use of the shallow-frame answers this question as affording a smaller and, consequently, warmer surplus-chamber than if the larger frame is used.

[2402.] *Bees Deserting Hive in April.*—The other day when I was taking a look through my hives I found to my astonishment that in one there was only about a score of dead bees left on one frame, while in another all the frames were covered with bees. These two hives are numbered 4 and 5 respectively, and about a fortnight before, when inspecting them, I found four or five frames covered with bees in each. I could not see the queen amongst the dead bees in No. 4, and in some of the cells there was a yellow substance. I would be greatly obliged if you would tell me: 1. If it is possible that the bees in No. 4 have gone on to No. 5, and their reason for doing so? No. 4 was working very busy a few days ago. 2. You might also say if it is allowable for any exhibitor at a show to have his name on the labels on the honey jars? I am a constant reader of the B.B.J.—C. CARGILL, *Ardlair, Kincardineshire*.

REPLY.—1. From the details given it seems very likely that the bees have joined their next door neighbours, and if No. 4 was broodless when examined it would no doubt be queenless. The result will therefore be satisfactory to both bees and bee-master. 2. In all well-regulated shows, any label or other mark that indicates ownership of an exhibit is disallowed.

[2403.] *Drone-Traps.*—Would you kindly explain the nature and working of a drone-trap, saying if there are different makes, and if so, which you prefer? If possible to illustrate it, a drawing would make an explanation of its working more easily understood. I have not seen a description of—or the nature of the device explained—in any text-book on bee-keeping I have ever read. My bees are blacks and Carniolans, and I wish to restrict drone-breeding to the Carniolan stocks, but no matter how I do, my blacks will build patches of drone-comb round the edges of the worker-comb and raise drone-brood.—C. O. H., *Belturbet, Ireland, May* 15.

REPLY. — Drone-traps were freely used fifteen or twenty years ago, but we know of no maker who now supplies them. The judicious use of comb-foundation is far preferable; but every hive should have a few drone-cells.

Echoes from the Hives.

Chichester, May 21.—After the cold winds we have been experiencing for the past few weeks, the weather has become warmer, and during the last two days thousands of young bees have been on the wing, indeed they seemed along with ourselves, to be celebrating the "relief of Mafeking," so joyful was the hum of the busy workers, supplemented by the boom of the drones. Some of my stocks will soon require more room; hawthorn just bursting into bloom, being about two weeks later this season here in the south. The fruit trees have been a picture of blossom, especially the cherry, but strong winds knocked the apple bloom about a great deal. All we want now is a few hours of good rain to bring the clover along, and plenty of bees to gather the nectar. May 1900 be a record year for all bee-keepers is the hope of JOHN DANIELS.

Bee Shows to Come.

June 6 to 9, at Winchester.—Show of Honey Hives and Appliances, Hants and Isle of Wight B.K.A., in connection with the Royal Counties Agricultural Society. Schedules from E. H. Bellairs, Hon. Sec., Winkerton, R.S.O., Hants.

June 18 to 22, at York.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. Edwin H. Young, Secretary, 12, Hanover-square, W.

July 12 and 13, at Spalding.—Honey Hives and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B. K. A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 12.**

July 18, 19, and 20, at Doncaster.—Bee and Honey Show in connection with the Yorks Agricultural Society's Show. Schedules from John Maughan, Secretary, York. **Entries close June 9.**

August 3, at Exeter.—Devon B.K.A. Annual Show of bees, honey, and appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from Hon. Sec. Devon B.K.A., Park House, St. Thomas, Exeter.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday) at King's Norton, near Birmingham.—Honey Show in conjunction with the annual exhibition of the King's Norton Floral and Horticultural Society. Demonstrations and lectures in the Bee-tent of the Worcester C.C. by the Rev. E. Davenport.

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy medals, diplomas, and liberal prizes. **Open to all British Bee keepers.** (See advertisement on page vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** (See advertisement on page ii.) **Entries close September 8.**

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.C.S, &c.

Praktischer Wegweiser für Bienenzüchter.—A correspondent seeks to prove that honey taken from old combs (uncapped) crystallises more readily than honey extracted from new combs (uncapped).

It is a subject of immense satisfaction to German bee-keepers to know that the Federal Council is at last occupied with the consideration of a Foul Brood Bill for Germany.

Le Rucher Belge (Belgium).—The twelfth International Apicultural Congress is to be held in Paris, in connection with the International Exhibition, on September 10, 11, and 12 following; entrance fee, 10 francs. Discussions to include:—(1) Apiculture generally—Consideration of the question how to make the manufacture of hydromel a rural industry, and, among other matters, the study of ferments. (2) Anatomical and Physiological Apiculture—To include discussion on "How the length of tongue affects honey harvesting." (3) Technical Apiculture—Value of various kinds of Hives, &c. (4) Apicultural Education—Bee-keeping an adjunct to Agriculture and Horticulture. (5) Diseases and Parasitism—Foul-brood, Wax-moth, Dysentery, &c. (6) Apicultural Legislation—Adulterations of Apicultural Products. (7) Apicultural Statistics—At Home and Abroad.

Die Deutche Bienenzucht.—The *Tügliche Rundschau* gives an amusing (though somewhat sarcastic) account of the English who imagine everything bearing the word "Foreign" to be inferior in every respect to that produced in their own country. In addition to English vegetables, eggs and honey are mentioned, and the idea of these products fetching a higher price than foreign evidently strikes the writer as both ludicrous and unnecessary; whilst he ridicules the fact that "English laid eggs" are more highly prized than French, he gives expression to the fact that in his opinion the English fowl must lay quite a different kind of egg in order to warrant this assumption.

L'Apiculteur (France).—A correspondent writes:—"Last year as I was cutting a border of parsley which was going to seed all at once I found myself attacked by several bees, seemingly very angry, so much so that I had to put on my veil in order to finish my work. As I had never ill-treated my bees this sudden

anger caused me much uneasiness, fearing for my neighbours. The idea struck me that possibly the scent of the crushed parsley was the cause of the irritation. This year the same thing occurred, although I was gathering the parsley in a shady corner. It had been previously noticed that some bees would buzz around any one taking parsley to the house for culinary purposes. We conclude that the bees find the scent very disagreeable."

Le Rucher Belge.—On May 28 there is to be an eclipse of the sun visible in Algeria, Spain, South of United States of America, and Mexico. As this phenomenon produces usually a great effect on all living beings, it would be interesting to know what influence it would have upon the bees. We therefore hope our brother bee-keepers in these localities will, if possible, do their utmost to throw light on this subject.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. W. K.—*Spreading Foul Brood.*—Both pieces of comb sent are affected with foul brood, the sample marked "No. 2" being positively rotten with the disease. How any one claiming to be an "authority" on the subject could fail to recognise so virulent a case we cannot understand. It will, however, be doing the industry of bee-keeping a real service for you to make known how utterly unreliable is advice given under the circumstances named in your note. We cannot publish names because of the difficulty of establishing legal proof of wilful culpability, but the association referred to could surely take measures to protect its members from being so misled with regard to foul brood as to cause annoyance and loss.

C. D. G. (Cambs.).—*Dealing with Foul Brood.*—1. When bees are very strong in May (notwithstanding that a few cells in some of the brood-combs contain diseased larvae) it has so often been found that a good harvest of honey can be secured from stocks so affected, that we do not hesitate to advise supering when ready, and deferring remedial measures till the honey season is over. This advice is, however, always governed by the ability or otherwise of the recipient to take every known precaution against further mischief, and with your knowledge, &c., it can hardly be termed a case of "super and chance results." 2. It by no means follows that such drastic measures as destruction of everything used on the hive when the honey season is over. Disinfection and precautions will minimise and do a great deal in securing immunity in the future. 3. In giving honey to bees as food it only needs a little thinning down with warm water.

W. S. (Plymouth).—*Sugar for Bee-food.*—1. Pure cane sugar is the best for bee-food for both summer and winter. It makes no great difference whether it be "loaf" or "refined crystallised" in form. 2. *Feeding Bees in Spring.*—Syrup food is only given when bees are short of stores and no natural food is available in spring. Moreover, it is only supplied in limited quantity, and before surplus-chambers are put on. Thus there is no risk of syrup being stored in the latter to be sold as honey.

H. O. B. (Reading).—*Curing Foul Brood.*—It is so well known to those possessing any knowledge of antiseptics that the one referred to by our correspondent is neither better nor worse than half-a-dozen others we could name, that no good purpose would be served by publishing his letter. Those who cannot, or will not, differentiate between the bacilli and the spores of foul brood may, of course, hold different opinions to ours, but this journal will take no part in giving prominence to such misleading views.

M. Raby (Rugby).—Comb contains nothing worse than mouldy pollen, with which the whole of the cells are completely blocked up, and in consequence useless. All such combs should be removed from the hive and done away with by burying or burning.

J. Taylor (Stourbridge).—We find no trace of brood in comb. A couple of cells contain mildewed pollen, and in all the rest is honey or syrup only.

C. D. G. (Soham).—*Soluble Phenyle.*—The difference between soluble phenyle—as per circular you enclose—and phenol (or pure carbolic acid) is that the former, while possessing all the good properties of carbolic acid, is entirely non-corrosive and non-poisonous as regards human beings. Regarding the difficulty of procuring soluble phenyle, why not write direct to the makers whose address you have?

D. Seamer (Lincs.).—*Drone-Breeding Queens. Suspected Disease.*—1. There is no disease in comb sent. 2. The drone-brood in worker-cells is readily accounted for by your sending the queen for inspection. She is an undoubted virgin, as can be seen without microscopic inspection.

W. H. B. (Salop).—*Buying Bees.*—The points to make sure of in buying bees in frame hives are (1) freedom from foul brood; (2) good, straight, workable combs, not too old; (3) a young queen; (4) a fair amount of food in store. The nearer your purchase approaches this the more valuable the bees. If you cannot judge by inspection yourself, some bee-friend should be called in to advise. So far as regards removal, it is safe to do so now, as directed in "Guide Book."

Veracity (co. Carlow).—1. See reply to "W. C. (Bodmin)." 2. See Mr. J. H. Howard's advertisement on page ix. regarding his undertaking to sterilise wax sent

him by bee-keepers for making into foundation.

W. C. (Bodmin).—Foul brood developing rapidly, but apparently a recent attack.

J. G. J. (Perth).—1. No disease in comb sent. 2. We should rather utilise the honey in samples 2, 3, and 4 for household purposes than for bee-food.

E. F. J. (Llangollen).—Comb is affected with foul brood. To avoid risk to the healthy colonies, and in view of the affected stock being weak, we should destroy the latter without delay.

AEGER.—We find traces of incipient foul brood in several cells of comb sent.

JOHN COATES (Co. Antrim).—*Insect Nomenclature.*—The wild bees sent are: (1) *Andrena rosæ*, var. *Trimmerana*, ♀, and (2) *Nomada Succincta*, a cuckoo-bee, which lays its eggs in the nest of the *Andrena*.—(F. W. L. S.)

A correspondent signing himself "Dean" writes:—"Will any reader of the B.B.J. kindly say where about or more acres of land (suitable for the erection of a dwelling-house) may be purchased for about £50. It should be good meadow soil suitable for tree-growing. *Not clay.* Near post and railway-station, with few and quiet neighbours."

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

ENGLISH and ITALIAN BEES FOR SALE in frame hives. THOS. HILL, Scotlands, Cannock-road, Wolverhampton. 917

WANTED, Cheshire's "Bees and Bee-keeping." Good condition. Rev. SIDNEY SMITH, Wheldrake Rectory, York. 910

SWARMS FOR SALE, at 10s. 6d. each. Empties to be returned. Address, F. BARKS, Rempstone, near Loughborough. 913

EIGHT grand STOCKS BEES in frame hives. What offers? BROCK, The Laurels, Woodbridge-road, Ipswich. 922

WANTED AT ONCE, strong LAD. Good character. Abstainer. Bee-keeping and market gardening. Live in. EDWIN GRIFFIN, Expert, Upton-on-Severn. 911

YOUNG MEN WANTED to work on a fruit farm (150 acres). Knowledge of bee-keeping preferred. Permanency. Address, MANAGER, Aylmer Hall Fruit Farm, near King's Lynn. 919

STOCKS of BEES on standard frames, Honey Extractor, Shallow Frames with worked-out comb, and other useful appliances FOR SALE. Mr. BESWICK, Tibenham, Norfolk. 920

TEN strong, healthy STOCKS of BEES in Webster's & Neighbor's bar-framed hives, fitted with full sheets of brood foundation, with boxes for tiering; £1 each. STRIDE, Elsenham, Essex. 916

24TH YEAR.—SWARMS, 10s. 6d., 12s. 6d., 15s., according to size. Cases free. Three wire-framed Nuclei, Queen, Bees, and brood, 12s. 6d. Cases returned. ALSFORD, Expert, Blandford. 915

"HONEYSLICE" SECTION WRAPPERS, 2s. per 100, of all dealers. Send post card for samples; for show sections 12 will be sent gratis to first 50 applicants. BELL, Beverley House, East Barnet. 912

Prepaid Advertisements (*Continued*).

NATURAL early June swarms, 3 lb., 10s.; 4 lb., 12s. 6d.; 5 lb., 15s. Guaranteed healthy and safe delivery. Packages to be returned. Orders executed strictly in rotation. C. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. 914

PREPARE FOR YOUR HONEY HARVEST.—WIRED FRAMES, "W.B.C." ends, fitted with "Weed Foundation: shallow, 5s. dozen; standard, 7s. dozen. Will EXCHANGE for Stocks or Swarms. MASSEY, Farndon-road, Newark. 918

CHESHIRE HONEY. Special offer! Cash with order. Free on rail (packing free). Bottles, 1-lb., 9s.; ½-lb., 5s. doz. Screw-cap Bottles, ½-lb., 4s. 6d. doz. Tie-over Sections, 1st grade, 8s.; 2nd grade, 7s. 6d. doz.; 1st grade, unglazed, 6s.; 2nd grade, unglazed, 5s. 6d. doz. JAMES SMITH, The Apiary, Oxton, Birkenhead.

SWARMS of superior BEES, 10s. 6d., 12s. 6d., and 15s., packed free. JOHN WALTON, Honey Cott, Weston, Leamington. 907

BUY SWARMS from a district where foul brood is unknown. Prices: 10s. 6d., 12s. 6d., 15s. Package free. J. MORGAN, Upper Boat, Pontypridd. 885

NATURAL healthy SWARMS, forwarded day of issue, 10s.—JOHN WOODWARD, Fladbury, Pershore. 898

ANNUALS for CUT FLOWERS, any height or colour, 2s. per 100. Carriage paid. GUTHRIE BROS., Alloway, Ayr. 899

SWARMS, packed in skeps, and rail carriage free, 12s. Cash with order. Mrs. KIME, Mareham-le-Fen, Boston. 921

SWARMS of ENGLISH BEES, '99 Queens 2s. 6d. lb, Box to be returned. GARNER, Broom, Biggleswade Beds. 900

FINEST Prolific Queens, Stocks, Nuclei, and Swarms. Queen-rearing a speciality for 13 years. List free. Rev. C. BRERETON, Pulborough Sussex.

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 828

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. SIMMINS, Heathfield, Sussex.

FOR SALE, twelve COLONIES of BEES in straw skeps; all gave swarms last year; packed free on rail; 10s. 6d. each. Apply, HICKSON, Blanchard's Hotel, Scarboro', Yorks. 909

EMPTY BEE-HIVES, Standard size, first-class order, 5s. each. Also Wells' hive, unused; most approved pattern. What offers?—WILSON, Auburnville, Holywood, Belfast.

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. post free. Best quality. Neat patterns. W. WOODLEY, Beedon, Newbury.

"W.B.C." HIVES, FEEDERS, SWARM CATCHERS. Make your own at third the cost. For particulars, send stamp to PRIDEAUX, Whitchurch, Salop. 777

TANNED GARDEN NETTING.—25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Only best quality supplied. L. WREN & SON, 139, High-street, Lowestoft. 818

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

STRONG NATURAL SWARMS, with '99 fertile Queen 12s. 6d. travelling cases 1s. or returnable. Second swarms with young Queen 8s. 6d. Three-frame Nuclei with Queen, 12s. 6d. Guaranteed healthy. WOODS, Normandy, Guildford. 901

BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. EDWARD REYNOLDS, Glove Manufacturer, Andover.

Editorial, Notices, &c.

PROSPECT OF A GOOD SEASON.

For the past five issues of this journal we have, owing to pressure on our space, printed four extra pages in each, and judging from the present satisfactory condition of our advertising columns we are pleased to say the B.B.J. will be enlarged to twenty pages for a good many weeks to come. This obviously points to what is termed "good business" all round, and we hear that bee-appliance dealers are doing a very satisfactory trade; so that we have but to be favoured with a continuance of the present improved weather conditions to render the prospect of the coming season highly satisfactory to all concerned in the pursuit.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

IRISH NOTES.

BEES IN CO. KERRY.

3993. I wish English bee-keepers could see my Limnanthes now! Not isolated patches here and there, but great sheets of it, on every spare bit of ground in the big walled garden. The pale green leaves and the yellowish stems are quite hidden, and all one sees is an unbroken carpet of the pretty little flowers, yellow tipped with white. And how the bees revel in it! Every square foot has its dozens of them, humming merrily. The sycamores are in bloom, and I see signs of honey-dew, but not a bee will go near them while the Limnanthes are out, which is a distinct advantage.

I put my first rack of sections on a Carniolan stock on May 23, and on the 25th it was full of a roaring crowd of bees. This Carniolan queen was introduced to a stock of pure Italians last August, and when examining the hive, before putting on the sections, I found quite two dozen Italians among the Carniolans. Does not this seem to prove the superior longevity of Italians over native bees, because you may remember in a former letter I remarked that in April there were no natives left in the Cyprian stock? I find it a very good plan to rub vaseline on the bottom bars of section-racks on the underside, where the bars rest on the top of the frames; the sections slip off and on so much more easily and do not stick to them. It has been an unusually cold, late spring here, but given warm weather from now, through the next three months, everything points to an abundant honey harvest, in which I hope English, Scotch, and Welsh friends may share.

I was glad to see another testimony besides my own *re* the wintering qualities of Cyprian bees in the pages of the B.B.J.—C. A. P., *co. Kerry, May* 26.

MAIMED QUEEN DOING WELL.

[3994.] On Saturday, the 12th inst., when examining my hives with a bee-keeper of about twenty years' standing, he discovered that the queen of one hive was wingless. Both wings have evidently been torn off, but this does not seem to have had any bad effect, seeing that she is a fine queen and laying well. This is my strongest colony, and was supered some days ago. They were a lot of driven bees last autumn. I saw the queen when the bees were hived, and feel sure there was nothing amiss with her wings then. My stocks were all pronounced healthy and getting on well.

When doing the spring cleaning, I found that one hive had a virgin queen, which I removed and replaced by a fertile one by direct introduction.

From what I have heard, a wingless queen is somewhat uncommon. Is this so?—A. J. B., *South Devon, May* 23.

[If we may suppose that the colony was made up of two or more lots of driven bees, it would seem as if the queen was "balled" for a time after the bees were hived, with the result of her being eventually released, but with maimed wings. In any case, she must have lost her wings after being fertilised.—Eds.]

EARLY SWARMING IN THE NORTH.

[3995.] It may be of interest to some of your many readers round Manchester district to learn that I took a good swarm of bees which issued on Saturday, the 26th inst., from a frame-hive located at Didsbury. I have not heard of such an early swarm for some years in this district.

Removing three combs of bees and brood with the sealed and ripe queen-cells into another hive near by, I examined the stock, made sure that no queen-cells were left in (this can only be done thoroughly by shaking some of the bees off a thronged comb), cut out some of the too plentiful drone-brood, inserted three drawn-out combs to replace those taken away, covered the hive up, gave more entrance room, then "went for" the swarm up a rickety ladder over a 14-ft. wall, cut the branch off the prickly gorse, on which the bees settled, with a guillotine, carried the swarm

down the ladder over the wall, put a sloping board to the hive entrance, shook the bees on the board, saw the queen run in over the top of the bees, shaded the entrance, and the job was done.—WM. RUSSELL WEST, *Northenden, May 28.*

TWO YEARS' BEE EXPERIENCES.

[3996.] Having been a bee-keeper now for about two years on the bar-frame system, it occurred to me that a few notes on my experience might be of use and interest to others. I began in August, 1897, and wintered four lots. No. 1 was a swarm of that year, the bees and combs of which I transferred into a frame-hive by fixing the old combs into the frames, and they came out well in the following spring. I much prefer, however, to let such lots transfer themselves by placing the skeps above top-bars of frames in spring or early summer. No. 2 was a driven lot given me by a skeppist the first week in September. The bees weighed 1 lb. 6 oz., and I gave them full sheets of foundation and fed up with sugar-syrup in a 2-lb. bottle covered with thin calico. This No. 2 hive far surpassed No. 1 in 1898, giving me ten deep frames of honey in a box above brood-chamber and a rack of twenty-one sections besides. No. 3 was a much neglected "case," the bees being nearly all dead when I received them at the end of September. No. 4, another driven lot, had been put into a skep in August. Both the last-named were small lots clustered in the crowns of the respective skeps in which I received them. The skeps were placed in boxes for warmth and covered up with sawdust (after providing a feed-hole) and fed according to instructions in "Guide Book." They came out well the following summer. No. 3 (the cast) I worked down into a frame-hive by placing skep on the top-bars; but No. 4 (the second driven lot) remained in the skep and sent out a good swarm early in July. I was surprised that such weak lots as 3 and 4 could be wintered at all, but we have thousands of trees about here covered with ivy which help the bees very much when the autumn is mild. I notice some correspondents say they "could get lots of bees to drive if they had the time." I would stay up all night "driving" rather than allow bees to be sulphured. I always manipulate according to "Guide Book," as far as circumstances will allow, but otherwise I do the best I can. For instance, in '98 I had seven lots to drive the last week of August, and a journey of six miles to go; consequently, it was six p.m. before I started to drive, and some of the skeps were a long distance apart; any way, it was just midnight when I had finished. Here let me say I always establish single lots of driven bees in frame-hives, and if they have good queens, I find them do well; when more lots are united, the best queen may get killed in the fight for supremacy. The lot I drove at midnight surpassed every stock in my apiary during the following year. They were wintered on five frames only partly built-out with comb when hived, but they completed eleven frames in spring, and gave me 104 1-lb. sections (sixty-two at home and forty-two at the heather) last year, while my other best stocks gave sixty-three at home but only twenty-one at the heather.

Just a few lines on allowing bees in skeps to transfer themselves into frame-hives. I worked two lots down in this way in '98, but the queen of one lot was missing, and I found it troublesome to requeen, so in '99 I tried another plan. At the end of March I had two skeps for transferring, and set them above the frames as usual. The last week in May I raised up the skeps and placed a rack of twenty-one sections directly on the frames in each case; then put the skep above the section-rack. Two weeks afterwards I again lifted the skeps and set a second rack of sections below each of the skeps. Then, on Saturday night in the last week of July I placed a super-clearer under each skep, and on Monday morning lifted them off. In one case not a bee was left in the skep, and it weighed 35 lb., every comb being full of sealed honey. No. 2 skep had, however, still a good few bees left, so it puzzled me what to do with them. However, I set it on another stand some distance away. At night there was some chilled brood in front of the skep, so it became evident that the queen remained in it. Moreover, she had not taken possession of the frames for breeding at all. Apparently I had not allowed sufficient time to elapse before placing the sections under the skep. However, as there were plenty of bees in the latter, I placed it on a new stand, and it soon became a strong hive. I also gave a frame of comb containing eggs to the frame-hive now queenless, removing the three section-racks to do this, and the bees not only raised a queen from the eggs given them, but completed the sixty-three sections. Thus from the two skeps named I got 126 sections, the skep full of honey, and an artificial swarm. The sections were removed at the end of August.

Ever since I first began working for section-honey I was dissatisfied through the sections being so securely fixed by propolis to the sides of racks. The trouble thus entailed determined me to try and find a remedy. After thinking out the "Raynor" system (so ably described in the editorial of April 12 last) I considered it would be too expensive for me, so I have hit on a plan that I intend trying during the coming season, and will report results. I am hoping that by using loose slips of tin or wood between the sides of racks the propolising of sections will be avoided. I will reserve further description till the plan has been tried.

A fortnight ago I had one lot of bees exactly as described by "Anxious" in your issue of April 26 (Query 2376). There was a queen

but very few bees and no brood or eggs, so I arranged all the best of the empty combs in the centre, and put a feeder above, covering all up snug and warm. Then on the following day, when bees were flying well, I exchanged places with it and a strong stock, and a week later there were lots of eggs and some larvæ hatched, while the bees were carrying in pollen and doing well.

I have seen it stated there is no way of locking up hives. In my next notes I purpose to give my various methods of locking up hives, both separately and collectively.—H. HARTLEY, *co. Cavan, Ireland.*

SWARMING IN 1900.

FOUR SWARMS IN MAY FROM ONE HIVE.

[3997.] I send you the following, thinking it may interest some readers of our JOURNAL, and can vouch for the accuracy of my statement:—Mr. D. Harris, of Harbertonford, has a stock of bees which has swarmed four times already this year. The first one came off on May 8, and consisted of about six quarts of bees; the second swarm issued nine days later; the third on the 20th; and the fourth on the 22nd. Is not this a rapid accumulation of live stock? I may add that Mr. Harris is a bee-keeper on the ancient method.—HY. NARRAMORE, *Totnes, Devon.*

[It is by no means extraordinary for a single hive to yield four swarms in one season; but in view of the present exceptionally late season, and the prevailing cold during the month of May, it would not surprise us if the above is a "record" case of increase for 1900.—EDS.]

A MAY SWARM.

[3998.] I had an unusually large swarm of bees at Rosuick, St. Keverne, on May 17. Considering the coldness and lateness of the season I thought this might be of interest to your readers. — G. WALTER JEVONS, *St. Keverne, Cornwall.*

PACKING BEE APPLIANCES.

A HINT TO DEALERS.

[3999.] I have seen various letters in the B.B.J. on the desirability of bee-goods being protected by some sort of proper package, and experience has taught me the idea is a correct one, although hitherto it does not appear to be acted on. This week I received a hive made up of stand, body-box, with frames, lift, super of shallow-frames, and roof, packed as follows:—The different parts were simply nailed together with oval nails two inches long, the nails in three places driven in so carelessly that the wood split; a newspaper was then wrapped round the hive, and two cords tied round to keep same in place. The result being one leg lost entirely, another torn away from the stand, inside of roof damaged, and three corners broken, besides various dents and bruises where the wood had rubbed against other goods in transit, thus spoiling the general appearance of the hive.

Now it surely would be easy to provide crates for these hives, and few would object to pay a charge, say, of 6d. for use of same; or another 6d. for the carriage of returning the crate if by so doing they could insure their goods would come undamaged.

Perhaps, if you permit this grumble to appear in your JOURNAL some enterprising appliance-maker will direct his attention to the matter, and I feel sure the increased trade and freedom from complaint, combined with a trifling charge such as I have mentioned, would amply repay him for his trouble. — ALF. MATTHEWS, *Melksham, Wilts, May 23.*

SURPLUS FROM DISEASED STOCKS.

[4000.] I was pleased to see your reply to "C. D. G." (Cambs) in last week's issue (page 209), as I, too, have foul brood in my apiary. The combs are not nearly as bad as that shown in the illustration in "Guide Book," but here and there are cells in different stages of disease. Notwithstanding this, the stocks are strong and working well in the supers. The course that seems to me most desirable to take is to let the stocks run on till after the honey-flow, and then give each stock a fresh start on full sheets of foundation; but what bothers me is this: Will not the honey taken from the supers of diseased stocks be a source of infection to other people's bees?

Perhaps you could kindly reassure me. I don't trouble so much about my own bees, but it makes me unhappy to think that any honey I might sell would convey disease to the hives of others.

On the other hand, it seems a pity to break up the stocks in their present prosperous condition, and it would mean a decided monetary loss. Remedial treatment, too, would, I take it, be less effective now while honey abounds than after the honey-flow.—"BROWSER," *Cambs, May 28.*

[The contingency named need hardly trouble even the most conscientious bee-keeper, for no sensible person would think of buying honey to use as bee-food. In fact, if so close a line were to be drawn as is suggested, a great deal too many of us would, we fear, be rendered "unhappy."—EDS.]

Queries and Replies.

[2404.] *Rearing Queens and Forming Nuclei.*—One of my three hives seems to be preparing to swarm. I judge this from the fact that a good many drones have been flying from it lately, and also that the bees refuse to enter

the super put on nearly three weeks ago. This was done at the advice of the expert who, on paying me a visit, said the hive was ready for supering. I may say that the super is carefully packed all round as well as above, to keep it snug and warm. I should prefer that it did not swarm, but in the event of its doing so, I propose to hive the swarm on seven frames, comb and foundation alternating. Put *one* comb of brood—free from queen-cells—in centre of cluster (after shaking off bees) from parent hive, feed for a few days, then give the super from parent hive. 1. Will my plan be a good one, and should the hive be filled up to ten frames before supering? I intend to treat parent stock as follows:—My object being (*a*) to raise queen for itself, (*b*) to raise queen for weak stock in another hive, on six frames, (*c*) to raise a queen with which to requeen the above swarm at end of season. In carrying out this idea I propose to prepare two nucleus hives. Five or six days after the swarm left, place into each nucleus hive *one* frame of brood with bees adhering (the frame having *one queen-cell*) and two frames with bees without brood. Wrap up warmly and feed regularly. This leaves three frames in original hive. If there is more than one queen-cell, remove all but the best. Add two or three frames of foundation; feed, if necessary. As progress is made gradually fill up with frames of foundation. After queen has hatched, been fertilised, and begun to lay in nucleus No. 1, unite this with the weak stock above mentioned. To do so, remove old queen, and following day gently transfer the frames from nucleus into the hive containing queenless stock, putting them all together at one side. Sprinkle a little flour over bees when joining up. Nucleus No. 2, add, gradually, frames of foundation as queen requires breeding space, and in autumn unite this with the swarm above mentioned, after removing the queen from latter. I therefore ask the favour of your replies to the following queries:—1. Would it be better to omit giving the swarm a frame of brood from the parent hive in view of my proposal to subdivide the latter? 2. What is the best number of days to allow to pass after the issue of swarm, before carrying out the division of the parent stock? 3. Should I take *one* or *two* frames of bees for each nucleus beside the frame of brood? 4. Suppose I overlooked a queen-cell, or embryo queen-cell, and so really had two cells in the nucleus, would the bees rear both? 5. Would it be desirable, a few days after starting the nucleus, to look in; and if more than one queen-cell is found developing, to cut it out? 6. Would it be desirable to place the two nuclei in a part of the garden remote from the other hives? 7. The method I have proposed for uniting the nucleus to the weak stock is one mentioned in a back number of the B.J. Do you consider it a tolerably safe method, or would you advise me to cage the queen? None of the operations in my proposed scheme have I ever carried out before, but as I shall require one or two queens, and am anxious to perpetuate the particular strain in the hive which I think is about to swarm, I should very much like to try my hand at the various manipulations involved.—G. S. NEWTH, *Wallington, Surrey.*

REPLY.—1. There is no need for giving a frame of brood when hiving the swarm. 2. This depends upon circumstances, such as date when queen-cells are due to hatch. If the swarm is not delayed by adverse weather, but comes off on the sealing of queen-cells, six or seven days after its issue would be a good time to divide, but when swarming has been delayed it is impossible to state the proper number of days before this operation should be undertaken. 3. It would be safer to take four frames of bees and brood (two of each) than rely on one frame of brood to each nucleus. See our final remarks. 4 and 5. In small nuclei such as those proposed there is no risk of more than one queen being reared. 6. Yes, they should be placed some distance away 7. In uniting bees, caging the queen is a safe way of ensuring her safety, but, unless a valuable queen is in question, it can be safely carried out without caging as directed in "Guide Book."

We note the admission that you "have done nothing in the way of carrying out such operations as are proposed before," and, in consequence, assume that you are practically a beginner in bee-keeping. It may, therefore, be well to add that, although the plan you propose might in experienced hands be successful, yet we see ample margin for a beginner to fail in attempting to carry out the rather complex items of so ambitious a "programme," items over which a novice, however intelligent, would have no control. In other words, there are elements in the task of dividing *one* swarmed stock into *several* nucleus colonies, and the successful raising and fertilisation of a queen for each, which compel us to recommend for preference a more safe and simple scheme, such as is found in "Guide Book" (see chapter on nucleus hives), seeing that your proposed plan, even if successful, would probably sacrifice the honey-crop of the current year. It is a wise maxim in bee-keeping to learn to "make haste slowly."

(*Queries continued on page* 216.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Joyce—seen in his bee-garden on next page—carries his years well regarded as a "veteran" who began bee-keeping in the "sixties," but his notes are so useful that we need add nothing thereto. He says:—

"I first began bee-keeping in the earliest sixties by buying a couple of straw skeps, one shared between myself and my brother and

the other for my sister. During our first summer's experience the skeps each swarmed twice; all four swarms being duly hived, making up our bee-possessions to six stocks. The two lightest were in the autumn consigned to the sulphur-pit according to custom, leaving two stocks each to the respective owners. One morning in late autumn we were surprised to find my sister's two hives had disappeared! and, doubtless, our two would have gone too, but for the fact that my brother and myself had cut holes in the tops of our skeps to put a small straw super above. Anyway, the thieves had apparently tried to appropriate them, but the holes in the top allowed the bees to escape, and I suppose the thieves found it prudent to 'escape' also. By reading what books I could get hold of, such as Payne's 'Manual of Bee-Keeping,' Pettigrew's 'Handy Book of Bees,' &c., I got an insight into the better plan of working, and, being in the wood line, I soon began to make my own hives; the first being one with fixed combs and a span glass roof (also a fixture) and contrary to the bee books at that time. I also found the honey was a 'fixture' in the combs, for drain out it would not. I well remember at the first bee show at the Crystal Palace in '74 asking the late Mr. F. R. Cheshire and one or two other well-known gentlemen if they could tell me why my honey would not run or drain out of the combs. They were unable to explain the cause. However, after those splendid exhibits of Scotch 'Stewarton' supers staged on that memorable occasion, it soon became known that heather honey will not leave the combs unless pressed out. I used at that time to make all my own hives, whether straw skeps, Stewarton's, bar-frames or glass, but have not now much time for hive-building. I work mainly for sections but can never manage to get any very early ones, my principal source of honey being clover, limes, and heather; my bees working on the latter until quite late in September if the weather is right. After trying most varieties of bees, I only keep natives. My 'take' of honey last year was about 600 sections and a small quantity of extracted.

"I first began taking the B.B.J. when the late Mr. C. N. Abbott was the editor, and the late Rev. H. R. Peel was Secretary of the Association; I also helped in the formation of our Hants B.K.A., being one of the founders.

MR. W. T. JOYCE'S APIARY, FARNBOROUGH, HANTS.

"I find a much greater demand for sections than for extracted honey, so I work principally for the former. I am always careful to have every section scraped nice and clean and free from propolis, of which the bees use a great quantity in this neighbourhood. I also carefully grade the different qualities and pack them in half-dozen parcels, with a cardboard square at each end, and store them away on shelves in a warm corner until wanted; and by so doing I find they usually keep in good condition until the next season; but I am generally able to sell out all my stock long before then, and have to buy to replenish it. My experience is that it is no use waiting at home, and expecting purchasers to come for our produce. I have had to create and find

my own honey market, the greater part of which is retail. When sections are of uniformly good quality and clean in appearance they recommend themselves and bring repeat orders and recommendations as a result. I always compete at our local show with a large exhibit, and have usually taken first prize. Once, when staging my exhibit, a brother bee-keeper asked why I brought so much honey there. My reply was: 'I have only the *empty packages* to trouble about in the evening, so I don't think it took too much.' With regard to sections, I always use the plain two bee-way. I consider the split top and four bee-way as one of the bugbears of bee-keeping; they are unsightly and very liable to get damaged in using.

"I offer a hint for what it is worth as to the way I have for years fixed foundations in sections:—I first pack a number of sections in the flat all the same way, placing them together edgeways, then give them a tilt over sideways, which allows a fine stream of water to be poured down the grooves to damp them, but taking care not to wet the surface of section to which the foundation has to be fixed. I next lay them out flat on the table and place the foundation in position; the wood "guide" is then held so as to cover half the width of section, and leaving about ¼ in. of the foundation beyond it. Now partly fill a jug with *hot* water and insert in it the smooth handle of a tablespoon, when by drawing the hot spoon-handle over the strip of foundation you will be able to fix it in a second or two. Then fold the section, after which bend the foundation so as to hang downwards. A little practice will enable any one to fix foundation at the rate of 100 sections in about half an hour."

QUERIES.

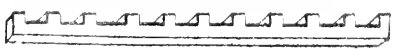
(*Continued from page* 214.)

[2405.] *A Beginner's Queries.*—I am a "bee-man" one year old, and as my first "birthday" occurs about this time I thought I would give you my first year's experience. I commenced a year ago with one stock, and before the season closed had purchased another, had had one swarm, and made up a fourth stock from the others. I also had a first swarm, but I lost this before I could procure a hive. When examining the several colonies this year I found two hives in splendid condition, whilst the others were not so satisfactory, and so to these I have recently been giving a little syrup. 1. How long should I continue feeding? The other day, finding that drones were flying from one of the strong stocks, I immediately gave more ventilation and put on a super. 2. Was this correct and do you think I may thus prevent swarming? I also put on a super on the second strong stock. Close by one of the last-mentioned hives I had confined in a small run a fowl which had been deprived of some of its feathers, plucked off by other fowls. On returning home during the day on which I examined the hives I found that the poor imprisoned fowl had been attacked by the bees and a large number of stings had been extracted from the bird by my wife. The next day, as the fowl appeared to be permanently blind I killed it. 3. Can you account for this extraordinary occurrence? Was it due to the disturbance of the nearest stock—a strong one? I may add that my interest in bees is as keen as ever, but have to confess that beyond being able to handle them without fear, I do not consider myself by any means a genuine bee-man. I am, however, anticipating a good honey season. 4. How many pounds of honey (sections) would constitute a good harvest from four stocks?—W. T. C., near *Brighton, May* 23.

REPLY.—1. If fine weather continues natural food should now be coming in well so far south as Brighton. 2. Yes. 3. No doubt the "examining" caused the bees to become excited and the fowl suffered in consequence. When more experience has been gained such mishaps will be avoided. 4. Anything from forty sections and upward from each of the four colonies may be regarded as a good harvest.

[2406.] *Moving Strong Stocks by Rail in June.*—Will you kindly tell me the best way to pack very strong stocks of bees in frame-hives (working in two supers to each hive) so that they will travel safely 170 miles by rail? I am moving that distance in a week or two, and want to take some of the best of my hives with me. Would it be safe to put them in a closed truck with the rest of luggage, or is it best to let them go per passenger train? The stocks in question are now so strong that I am afraid the brood-chamber would not hold them, and I suppose in that case it would be better to leave only one super on.—W. AVIS, *Faversham, May* 28.

REPLY.—To move "very strong stocks" so long a distance as 170 miles by rail in mid-June is a difficult task, and unless the bee-keeper himself—or some competent person—had personal charge of the bees we could give no entirely *safe* method. If convenient to send by passenger train (and the person in charge travelled in the guard's van) it would no doubt contribute very much to safety, and, for the rest, we advise that an *empty* super be securely fixed above the brood-chamber, the one already occupied by bees being placed above the empty one. We should also provide for each stock a temporary floorboard, with a 4 in. hole in centre covered with perforated zinc on its upper side for bottom ventilation. A rack fixed to the floorboard, as sketch,



with projections 1 in. long on its upper side as shown, will keep the frames steady in transit.

Thus provided—and with top ventilation, of course—if care is taken to secure the various parts of the hives together so that no bees can possibly escape all should go well if the combs are fairly tough. Personal handling or supervision during all moving about of the hives is, however, necessary to ensure safety in transit.

[2407.] *Section-Racks for Skeps.*—I have lately started bee-keeping by buying two stocks in skeps. They are very strong, the hives being full of bees, and brood on seven combs in one and eight in the other, and both seem now about to swarm, as there are drones flying and queen-cells in each hive.

I intend letting them swarm, but I should like to super them. Could you give me any instructions as to making a sectional super for a skep? I have, with the help of a friend, made two bar-frame hives. Your kind attention to this will greatly help me.—W. J. LARKINS, *Shefford, Beds.*

REPLY.—In the handbook "Modern Bee-Keeping" will be found full instructions for making the appliance referred to. It can be had from this office price 7d. post free.

[2408.] *Swarming.*—1. Do bees swarm in August if in a good heather district? 2. *Granulated Honey.*—Suppose illness prevented me from finishing off my extracting before cold weather set in, and I had a lot of granulated honey in combs, all of which was melted up and allowed to cool (as advised lately in the JOURNAL). Is this honey fit to put on the public market, labelled "Guaranteed Pure Honey!" 3. *Ventilating.* — The "Guide Book" recommends us to place outer cases a little across each other in hot weather to assist ventilation. Should they be left so night and day, or only for a few hours? 4. Is it right to prop up the roof a little—say an inch or two—in hot weather? 5. Is there any danger in leaving on too much quilting in hot weather? Some say it is impossible to overdo top-coverings because the bees propolise so much below. 6. Should I run any risk in leaving on a single covering of calico and one flannel or felt in hot weather during July and August, in a good hive with outer case, &c.?—BRITISH BEE, *Pwelheli, North Wales, May* 23.

REPLY.—1. Swarms in August are regarded as "curiosities," so seldom are they heard of. 2. Yes, seeing that it cannot render honey impure to reliquefy it. 3. While weather is very hot no harm will follow, allowing ventilation night and day. 4. Yes. 5 and 6. It only needs to use ordinary intelligence so far as regards top coverings in warm weather. When bees show distress from the heat, reduce coverings, and *vice versa.*

[2409.] *Hiving Swarm on Full Sheets of Foundation.*—1. In hiving a swarm, if full sheets of comb foundation are used must they be wired? 2. Also what is the difference between "Weed" and ordinary foundation? Which do you recommend a beginner to use? 3. What is the correct distance to allow between division board and frame next it? 4. If ¼-in. space is left under division board as advised in "Guide Book," how am I to prevent bees building comb outside division board?—L. ILLINGWORTH, *Acton, W., May* 25.

REPLY.—1. Some experienced bee-keepers dispense with "wiring," even when giving full sheets of foundation to swarms when hiving. As a rule, however, it is safer and better, especially for beginners, to wire all frames where full sheets are used. 2. The difference consists in an improved method of sheeting the wax by means of which the foundation is supposed to be rendered tougher and thus capable of bearing a greater strain. Many persons, however, are content to use that of ordinary make. 3. Three-eighths of an inch full. The extra space between outside frames and the hive side or the dummy-board is to provide a little lateral space by removing the strip of wood placed between the shoulder of metal-end and hive side when lifting out combs. 4. There is supposed to be no vacant space outside division board in summer unless hives holding more than the necessary number of brood-frames are used, in which case a strip of cloth is tacked to bottom edge of division board to keep bees from passing under.

[2410.] *Transferring Bees from Old Skep to New One.*—I want to transfer a stock of bees from an old straw skep (dome-shaped) to a flat-topped straw skep with hole in crown, and therefore ask:—If I put the old skep and bees on top of the latter, would the bees transfer themselves the same as they will do in the case of a frame-hive, or how must it be done? A line in reply will oblige.—J. W. EDWARDS, *Holywell, May* 26.

REPLY.—If carefully done, and the lower skep is made as cosy as possible by warm wrappings, the bees will work down and eventually be followed by the queen as combs are built in the lower hive. The disadvantage, when compared to transferring to a frame-hive, is that as sheets of comb foundation cannot well be fixed in a straw skep, there will be a superabundance of drone-comb built in the lower skep.

[2411.] *Foul Brood in Swarmed Hive.*—Herewith I send you a piece of brood-comb taken from one of my hives, and in it I am afraid there are indications of foul brood. Will you kindly examine, and let me know as soon as possible what to do? I have had two swarms from the stock referred to, the second issuing to-day. After cutting away all queen-cells this afternoon I returned the swarm. I wish to know whether by destroying all the combs and body-box, and by putting bees on to new combs and body-box, the disease can be stayed, or whether it will be necessary to destroy bees as well. The first swarm is doing splendidly. Last year this hive gave me 120

1-lb. sections. I bought it early last season as a stock, and found the combs looking rather old and of a dark colour as per enclosed. Are old combs conducive to foul brood? Please "wire" me on Monday if it is necessary to destroy comb and frames and bees, or comb and frames alone. I shall not mind burning the whole stock if necessary, for I have five other splendid stocks and wish to keep them free from contamination. You may be interested, perhaps, to know that the four stocks which I had last year gave me 450 1-lb. sections, thus averaging over 1 cwt. per hive. —A. T., *Saltash, Cornwall, May* 26.

REPLY.—There is no doubt as to the stock being affected with foul brood, and in consequence the destruction of combs and frames is imperative, but for the rest the treatment you propose will suffice and save the bees, almost all of which will be young and vigorous. The fact of combs being old is not conducive to foul brood.

[2412.] *Two Queens in One Hive.*—I shall be glad of your kind opinion in your next issue on the following:—Last Tuesday, May 22, I looked over one of my hives and found that the bees were not doing as well as I could wish, there being very little brood and a small quantity of drones. I therefore searched for the queen, and having found her determined to remove her and put in a frame of brood with queen-cells from another hive. This I did, and to-day (Saturday, 26) I again examined the hive, and was surprised to find some eggs apparently just laid, nor could I find any trace of the queen-cells I put in, but on a closer examination I found a queen; it is very evident therefore that there must have been two queens in the hive on May 22, or that one must have come from another hive, as it could not have been from the frame of brood I put in, as the young queen would not be fertilised in the time. I should say the frame of brood was taken from a hive that swarmed on the 21st inst. Another singular thing happened to-day. About 10 a.m. I had a swarm which pitched on a currant bush from a large hive with a super of shallow frames; this I took in a hive with ten bars and they settled down comfortably. About 11.45 a.m. I had another swarm from a hive standing about six yards away, and they went straight into the hive in which I had taken the other swarm, and there they are now.

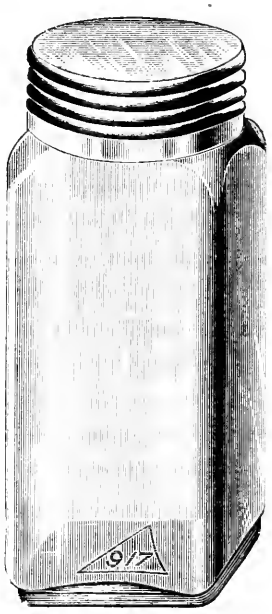
Would you also kindly advise me whether, if I were to place a cone of wire gauze over some queen-cells in a hive until they were hatched, I could then introduce the young queens (unfertilised) into other hives for the purpose of requeening, or what course I should adopt with them?—JOHN GRIFFITHS, *Kingswood, May* 26.

REPLY.—If you know how to take the necessary precautions against the young queens perishing from want of food while caged they may be preserved for use as proposed.

NOVELTIES FOR 1900.

A "TALL-SHAPE" SQUARE HONEY-JAR.

Messrs. Abbott Bros., of Southall, have sent for insertion as a "Novelty for 1900," a sample of the new square glass honey-jar they are about to introduce for the coming honey season. Being tall and elegant in shape, they claim that it shows the honey to great advantage. The labels also look particularly well on the flat-sided jar. It is made of clear white glass, and its general excellence is guaranteed by the "triangle" trade-mark stamped on its base. The capsules are of bright tinned steel, and can be had either plain or with a bee-hive stamped on them.



A New Honey-Jar.

Among the many advantages possessed by this jar over the round one are its superiority for exhibition purposes, and greater economy and safety in packing. Thus, one, two, or three jars, sold at a show or over the counter, make up into a square and handy parcel for the purchaser to carry, &c. It also holds just 16 oz. of honey. Last, but not least, it is a real "novelty," for no tall-shape square glass honey-jar has been placed on the market before. We are informed that Messrs. Abbott Bros. are sole agents for this jar, and that only those who order very early will be able to obtain a stock; but no doubt their advertisements will appear later on, when they can speak for themselves in this direction.

Bee Shows to Come.

June 6 to 9, at Winchester.—Show of Honey Hives and Appliances, Hants and Isle of Wight B.K.A., in connection with the Royal Counties Agricultural Society. Schedules from E. H. Bellairs, Hon. Sec., Winkerton, R.S.O., Hants.

June 18 to 22, at York.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. Edwin H. Young, Secretary, 12, Hanover-square, W.

July 12 and 13, at Spalding.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B. K. A. Schedules from the

Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 12.**

July 18, 19, and 20, at Doncaster.—Bee and Honey Show in connection with the Yorks Agricultural Society's Show. Schedules from John Maughan, Secretary, York. **Entries close June 9.**

July 23.—Caergwrle Castle Flower Show. Open class for six 1-lb. jars of extracted honey. Schedules from H. S. Davies, Abermorddu, Wrexham.

August 3, at Exeter.—Devon B.K.A. Annual Show of bees, honey, and appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from Hon. Sec. Devon B.K.A., Park House, St. Thomas, Exeter.

August 3, 4, and 6 (Bank Holiday) **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday) **at King's Norton, near Birmingham.**—Honey Show in conjunction with the annual exhibition of the King's Norton Floral and Horticultural Society. Demonstrations and lectures in the Bee-tent of the Worcester C.C. by the Rev. E. Davenport.

August 6 and 7, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester.

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy medals, diplomas, and liberal prizes. **Open to all British Bee keepers.** (See advertisement on page vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers** (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

S. M. (Glos)—*Foul Brood in Swarmed Hive*—The larger piece of comb sent contained brood in various stages, some still alive and hatching out all right. In one cell only did we find foul brood, but this showed the disease in pronounced form. In view then of the hive in question having sent out a swarm this year and your statement that the stock is again strong in bees, it becomes evident that almost the whole of the brood is hatching out. This being so, we advise that you allow twenty-one days to elapse from the time the swarm issued, then examine the combs, and if any still show sealed brood-cells, remove all such and destroy by burning. Then shake the bees off combs and treat them as a swarm in a clean hive, giving full sheets of foundation and feeding for a few days with medicated syrup. The smaller piece of comb showed several cells in which the larvæ were affected with foul brood but only in the incipient stage.

F. Hamshar (Burgess Hill). — *Removing Queen-Cells to Prevent After-Swarms.*—We should allow five or six days to elapse after the swarm comes off before removing all queen-cells except the best and most forward one left for hatching.

G. Spearman (Colesbourne).—*Swarms Losing Weight in Transit.*—It is impossible to fix satisfactorily the amount of loss in weight a swarm is liable to in transit, so much depends upon other things besides the time occupied in travelling, &c. A natural swarm, for instance, that issues when honey is plentiful in the hive will carry off with it more food than an artificial swarm, or one issuing in times of scarcity. What we always do when appealed to on the question of "short weight on arrival" is to explain this to those who complain.

C. D. G. (Cambs).—*Feeding Bees with Granulated Honey.*—The honey had better be liquefied by warming before using it as bee-food. In so doing stir into it sufficient hot water to thin down to the consistency of ordinary syrup-food.

J. J. (Soham).—We regret to say there is no mistake in the address given nor in the facts stated, so far as regards the sample of comb inspected. It is, however, quite possible that the apiary in question may be the only one in the immediate neighbourhood where the pest is prevalent.

I. W. (Kendal).—1. There is incipient foul brood in comb sent. Seeing, however, that the bees were few in number, you did well in destroying them along with combs. 2. The honey is quite fit for household use, but not as bee-food. 3. There is no drone-brood in smaller piece of comb, so that the eggs laid cannot be those of a fertile worker.

W. Patchett (Lincs).—*Wax-Moth in Hives.*—1. The "grubs" sent are larvæ of the small moth often found between quilts and top-bars of frames. It is not the real wax-moth, *Galleria cereana*, the larva of which is nearly an inch long when full grown, and enormously larger in every way than those received.

"Tom-tit."—*Hives and Methods of Working.*—"The dimensions of hives" and the "best methods of working for comb and extracted honey" cannot possibly be given in reply to a query. A text-book on bee-

keeping is indispensable if success is to be attained.

R. M. B. (Luton).—*Suspected Combs.*—Comb is badly diseased.

K. CONDOR (Bognor).—Samples numbered 1 and 2 are free from foul brood, but No. 3 is badly affected with the disease.

JOHN CLAPPERTON (Galashiels).—We have, as requested, addressed and forwarded letter, but would remind our correspondent that communications presumably supposed to be replies to queries sent to this journal should be left open when we are asked to forward the same.

Referring to the inquiry on page 210 last week we have received the following:—"In answer to 'Dean' inquiring for land, I can tell him what he requires if he will write to me."—COMPLIN, *Clock House, Farnborough, Hants.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, natural SWARMS of BEES, cheap. WEBB, Saw Mills, Swindon, Wilts. 928

FOR SALE, three HIVES of BEES in good and strong condition; also several APPLIANCES. E. KIRK BROWN, Preston, Hull. 927

FOR SALE, new "W.B.C." HIVE, zinc-covered roof, crate, 21 sections, painted, 25s. SHORT, Saltash, Cornwall. 926

NATURAL SWARMS FOR SALE, 10s. each. Apply, H. HOLLEWORTH, Manor Farm, Wysale, Notts. 925

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas HORSLEY, Merridale House, Top of Castle Drive, Isle of Man. 932

FINEST ENGLISH HONEY, in 28-lb. tins, 6d. lb.; tins free; sample 2d. Deposit system. RICHD. DUTTON, Terling, Essex. 931

THE most satisfactory departure in the South for imported Hybrid and Virgin Queens. Swarms a speciality. List free. SPEARMAN, Colesbourne, Andoversford. 934

FOR SALE, COMBS for extracted honey, standard shallow size, perfectly clean, used once, price 4s. per doz., or in crates, 9, 3s. 9d. each. JOHN TUNWORTH, Ball Ring, Horncastle. 924

PROLIFIC QUEENS, 5s. now. Orders requested for stocks, swarms, nuclei, and home-bred queens—Italian, Carniolan, and Black. E. WOODHAM, Clavering, Newport, Essex. 933

STRONG NATURAL SWARMS, with '99 fertile Queen, 12s. 6d. travelling cases 1s. or returnable. Second swarms with young Queen. 8s. 6d. Queens, 4s. 6d. each. Guaranteed healthy. WOODS, Normandy, Guildford.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2½, 3, and 3½ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 9d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

WANTED, Cheshire's "Bees and Bee-keeping." Good condition. Rev. SIDNEY SMITH, Wheldrake Rectory, York. 910

SWARMS FOR SALE, at 10s. 6d. each. Empties to be returned. Address, F. BARKS, Rempstone, near Loughborough. 913

EIGHT grand STOCKS BEES in frame hives. What offers? BROCK, The Laurels, Woodbridge-road, Ipswich. 922

Prepaid Advertisements (*Continued*).

SWARMS of superior BEES, 10s. 6d., 12s. 6d., and 15s., packed free. JOHN WALTON, Honey Cott, Weston, Leamington. 907

BUY SWARMS from a district where foul brood is unknown. Prices: 10s. 6d., 12s. 6d., 15s. Package free. J. MORGAN, Upper Boat, Pontypridd. 885

SWARMS, packed in skeps, and rail carriage free, 12s. Cash with order. Mrs. KIME, Mareham-le-Fen, Boston. 921

FINEST Prolific Queens, Stocks, Nuclei, and Swarms. Queen-rearing a speciality for 13 years. List free. Rev. C. BRERETON, Pulborough Sussex.

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 828

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. SIMMINS, Heathfield, Sussex.

WANTED AT ONCE, strong LAD. Good character. Abstainer. Bee-keeping and market gardening. Live in. EDWIN GRIFFIN, Expert, Upton-on-Severn. 911

YOUNG MEN WANTED to work on a fruit farm (150 acres). Knowledge of bee-keeping preferred. Permanency. Address, MANAGER, Aylmer Hall Fruit Farm, near King's Lynn. 919

24TH YEAR.—SWARMS, 10s. 6d., 12s. 6d., 15s., Cases free. Three wire-framed Nuclei, Queen, Bees, and brood, 12s. 6d. Cases returned. ALSFORD, Expert, Blandford. 930

FOR SALE, twelve COLONIES of BEES in straw skeps; all gave swarms last year; packed free on rail; 10s. 6d. each. Apply. HICKSON, Blanchard's Hotel, Scarboro', Yorks. 909

"W.B.C." HIVES, FEEDERS, SWARM CATCHERS. Make your own at third the cost. For particulars, send stamp to PRIDEAUX, Whitchurch, Salop. 777

TANNED GARDEN NETTING.—25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Only best quality supplied. L. WREN & SON, 139, High-street, Lowestoft. 818

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

NATURAL early June swarms, 3 lb., 10s.; 4 lb., 12s. 6d.; 5 lb., 15s. Guaranteed healthy and safe delivery. Packages to be returned. Orders executed strictly in rotation. C. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. 929

BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. EDWARD REYNOLDS, Glove Manufacturer, Andover.

CHESHIRE HONEY. Special offer! Cash with order. Free on rail (packing free). Bottles, 1-lb., 9s.; ½-lb., 5s. doz. Screw-cap Bottles, ½-lb., 4s. 6d. doz. Tie-over Sections, 1st grade, 8s.; 2nd grade, 7s. 6d. doz.; 1st grade, unglazed, 6s.; 2nd grade, unglazed, 5s. 6d. doz. JAMES SMITH, The Apiary, Oxton, Birkenhead.

FOR SALE, BEES, HONEY, HIVES, and APPLIANCES,
New and Second-hand, Cheap.
SPECIALLY CHEAP, well-made HIVES, catalogue price (new) 24s., for 18s. to effect a speedy sale.
H. N. BAXTER, Sedbergh, R.S.O., Yorks.

LANCASHIRE BEE-KEEPERS' ASSOCIATION.

COUNTY COUNCIL LECTURES and DEMONSTRATIONS, by Mr. F. H. TAYLOR, First-class Expert, B.B.K.A.

EDGEWORTH SHOW, near Bolton. Saturday, 2nd June, 3 p.m.

BALDENSTONE GRANGE, near Blackburn. Whit-Monday, 4th June, at 3 p.m.

ORMSKIRK SHOW, Ormskirk. Saturday, 9th June, at 3 p.m.

Editorial, Notices, &c.

"HONEY SHOWS TO COME."

CREATING A HONEY MARKET.

The steady increase of announcements in the column set apart for "Shows to Come" serves to indicate that the interest taken by bee-keepers in such exhibitions is not only maintained, but extending. Nearly every bee-keepers' association, no matter how small, makes a point of endeavouring to secure either direct representation or the means of including a few honey-classes at the neighbouring agricultural or horticultural show wherever held; and in this way assists in bringing British honey to public notice. It is well that this should be so, because in the absence of any collective effort of the kind many opportunities of promoting the sale of honey would be lost.

Our object at the present juncture is, however, less for the purpose of alluding to "shows to come" as a whole, than of inviting the attention of B.J. readers to the importance of two exhibitions which have been prominently announced in our advertising pages for a few weeks past. We refer to the respective "Annual Exhibition and Market of the Confectioners', Bakers', and Allied Trades," and that of the Grocery, &c., Trades, both of which will be held at the Agricultural Hall, London, in September next. The two exhibitions—though under the same management—are quite distinct from each other; and although the forthcoming one is the eighth annual show of the first-named (for brevity termed "The Confectioners'"), honey-classes are introduced this year for the first time, and are "open to all bee-keepers in the United Kingdom." The show opens on Saturday, September 8th, and continues till the 15th. The other (which we will call "The Groceries") begins on Saturday, the 22nd, and extends to Saturday, the 29th, of the same month. In the latter case this is the third occasion on which honey-classes have been included, and we are pleased to see that for the first time an additional class has been provided for a trophy or display of honey, &c., which last is open to all bee-keepers in the United Kingdom. Full particulars of both exhibitions will be found on pages ii and vii of our advertising columns.

In dealing with these two exhibitions from the bee-keeper's standpoint we can hardly lay too much stress on the important bearing they must have upon the question of "creating a honey market," which has been so prominent in our pages for some time past. The main object of both exhibitions is to promote "business" with regard to the buying and selling of almost numberless edibles dealt with by the various trades represented; but, on the other hand, during the time they are open to the public, visitors may be numbered by scores of thousands, the majority of whom make a point of carrying away with them to their homes samples of the goods displayed. We thus secure a double advantage—first, of introducing to public notice British honey in its very best form, and second, an exceptionally favourable opportunity for showing to the tradesman—whose help we desire to secure—that our produce can be put up in a form so that it may be dealt in with profit to himself and free from the discomfort or "messiness" in handling usually associated with honey-selling. An obvious advantage is also afforded for the interchange of business views between producers and sellers which will not be lost sight of by those concerned.

In other words, the Agricultural Hall becomes, for the time being, a vast emporium or market where edible goods of all kinds, together with the best methods of preparing them for use, are placed before the public in the most attractive form; the result being that producers, distributors, and consumers are enlightened, to the general benefit of the whole.

In conclusion—and for the special notice of bee-keepers who are either regular exhibitors or who desire to compete—we note that winning exhibits in the honey trophy class at the "Confectioneries" are allowed to remain in the Hall for staging at the "Groceries," with the awards attached, for trade purposes, though debarred from taking prizes at the later show. A chance is thus offered to non-winners at the "Confectioneries'" of competing again—with the more successful exhibits out of the way—by making an entry in time, viz., before September 8. It may also be added that exhibitors in the trophy class will probably be able to arrange for the services of Mr. W. Herrod for staging exhibits (if

unable to attend themselves), Mr. Herrod having charge of all the arrangements connected with the honey section.

SPREADING BROOD.

ITS DANGERS AND ADVANTAGES.

There has in the past been some discussion in regard to spreading brood in the spring in order to increase brood-rearing, and thus have a larger force of bees for the early honey-flow. As with many other things discussed in relation to our pursuit, there are some who are strong advocates of the practice, and others who oppose or condemn it. Mr. Doolittle, who it is needless for me to say is one of the most experienced and practical men in our ranks, advocates and practises this spreading of brood in the spring, and it is a success in his hands; but many of us lack the skill and judgment he possesses, and then I think, too, locality has a deal to do with success or failure in the matter. I have largely practised it in the past, but of late have discontinued it almost altogether, for here, with what skill and what judgment I possess, and taking one year with another, I find nothing is to be gained by the practice where I am located.

In some years, no doubt, a considerable increase in bees can be secured by spreading, but it is equally true that in other years nothing is gained; while at times the practice has resulted in a serious loss of brood, which was more valuable at the time it was lost than twice or three times the same amount would be later in the season. The trouble is that here in the spring, during the time brood must be spread in order to secure much advantage, the weather is too uncertain. A warm, mild spell may be succeeded for a considerable time with so low a temperature that colonies of ordinary strength will hardly be able to protect what brood they would naturally have. Therefore, if the brood has been spread during or just previous to the warm spell, some of it must perish, and in some cases many adult bees will also be lost, for they will spread themselves out, trying to protect the brood until they succumb to the cold. It is, however, only in exceptional cases that many bees themselves are lost, such as when the weather turns cold very suddenly. When the change comes on gradually the bees keep contracting the space occupied until, if necessary, they are as compactly clustered as during cold weather late in the fall.

But I think it is certain that a large increase in brood-rearing can be secured by spreading the brood. But great caution should be exercised in localities like mine, and subject to sudden changes during the forepart of the season.

To show the danger here, I will briefly cite an instance that occurred with me a number of years ago. That spring the weather until the middle of April was cold and unfavourable; it then suddenly turned warm, and I thought the cold weather for that season was over. There was also but little brood in the hives, so I commenced spreading it, and brood-rearing increased very rapidly. But at the end of April it suddenly turned cold again, and we had a snowstorm, and it continued cold until about the middle of May. When warm weather returned I found, upon examination, that a large part of the colonies were in deplorable condition; they were very weak in bees, and a large part of the brood had perished. Besides this, spreading brood had caused the bees to use more of their stores than they would otherwise have done, so I had to do a good deal of feeding that would have been spared me. Besides the work involved, I lost by it that year, at a low estimate, 200 dols.

Perhaps most of those who read this will say, "Well, you spread too much and too soon." If they think so, my object is gained, for I have merely described my loss as a caution to others. But it should be understood that all I have said in regard to this matter refers to single-walled hives, for I use no other. Long ago, I made a number of double-walled chaff hives, but a large percentage of the colonies in them, if wintered outside, perished during the winter or following spring, and if wintered in the cellar I could not see that they did any better in the spring, or gathered any more honey during the season, on an average, than colonies in single-walled hives, so I discontinued their use, as being more unwieldy to carry into and out of the cellar, and more unhandy to manipulate in the summer.

Mr. Doolittle claims, I believe, that bees winter so much better in chaff hives in the cellar that it pays for the extra trouble and expense; but how or why they can be kept at the proper temperature is more than I can understand, unless the packing overhead is arranged so as to absorb any dampness that may arise from the cluster, this might be a benefit in a damp cellar, but the same benefit could be more cheaply secured by putting a packed super over a single-walled hive. Be this as it may, at the time I had a few double-walled hives in use I knew nothing about spreading brood in the spring, so I cannot say from experience whether as much caution would be necessary when using them. It seems reasonable to suppose that a colony in a double-walled hive could protect more brood during a cold spell than the same colony in a single-walled hive. However it would be in the case of spread brood, it is well known that there is a considerable difference of opinion between men of experience whether a chaff hive is advantageous or not during the changeable weather of spring to a colony of average strength left in normal condition.

Of course, there are times in the season when there is no danger of brood being chilled, and at such times the brood can be spread to great advantage; in other cases it will also

result in great advantage for a colony to have their combs rearranged early in the spring, because sometimes there is so much honey in the combs next to the cluster that brood-rearing will not increase as fast as it naturally should, for the bees can remove honey from one comb to another, and sometimes they do this work too slow in the early spring; besides, there may not be anywhere to put it.

When using a small hive like the 8-frame Langstroth, one of the things that has to be watched and guarded against is not to allow too much honey in the brood-nest during the time brood-rearing is desired, for brood-rearing cannot, of course, be carried on unless there are empty combs in which the queen can deposit eggs.

Dr. Miller would probably say, Give them another story of empty combs, then at the beginning of the white flow, if thought best, they can be reduced down to one story again. This is a good plan to practise if one has the empty hives and drawn comb, but there are probably many who work for comb honey who do not have many of these extra hives unless a severe winter loss has occurred. This is the case with me, and with frame-hives I find this matter can be as profitably arranged here without going to the expense and work of keeping a large number of extra hives and combs, for there are usually enough colonies short, or that can at least take more stores without curtailing their brood-rearing, so that by exchanging combs enough brood-room can be secured for all.

There are exceptional cases, as when, for instance, the brood-nests are unusually well filled in the fall; and again, when more than the usual amount is secured from the early spring flowers. Under these conditions the extractor is brought into play, and soon remedies the matter; but in other localities, where there is a longer time from the beginning of settled warm weather until the main flow, it might be money well invested to have an extra story with drawn combs for all strong colonies. —C. Davenport, in *American Bee Journal*.

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.G.S., &c.

L'Apiculteur (France). — Mahomet, the Arabian prophet, gives a special chapter in the Koran to the bee, in which occur the following:—"The Lord spake by inspiration to the bee: make thyself dwellings in the mountains, in trees, and in the materials with which men make thee hives. Eat every kind of fruit and walk in the path designed by thy Lord. From their stomach issues a liquid of varied colours, in which is a medicine intended for man."

The bees are called "sheep without a shepherd," and this motto is the foundation of apiculture.

These general rules for the possessors of hives follow, and we read:—

"I. No family may quarrel or live in discord. II. Two partners in an apiary must agree on all points, never suspect dishonesty or unfairness in each other. III. That in a house where hives are kept no stolen object should be permitted. IV. That no wickedness of any kind be allowed in such a house. V. That no guilty hand be allowed to touch a hive. VI. That the surroundings of an apiary be kept very clean.

"*Otherwise* the bees will perish or leave their dwellings, bringing a curse on the neighbourhood."

"The bee is a sacred insect, blessed by God and placed above all His creatures after the human race.

"She alone has the honour of providing with its pleasant scent a substance created to be used in hours of devotion and which lights the house of prayer for all religions.

"Do not tapers burn in honour of prophets, of saints, and of the dead who have gone before us to another world? This is why the insect is sacred.

"Then the honey—this sweet, wholesome substance—which sustains and strengthens the body, which cures all maladies, a thousand times preferable to the poisons administered by the doctor to the human race.

"Led by her Creator in all she undertakes, it is useless to look after her; she knows what to do; nature advises her.

"Man, driven out from paradise for disobedience, must never more harvest without trouble on an earth which brings forth thorns; every animal requires care to rear successfully; the bee alone has no need of the care of man, and God has given her a sting to remind man of the sin of his first parents!

"The bee, proud of possessing a venomous dart, prayed that the sting might be mortal: 'No,' said the Almighty; 'and since thou art so ill-disposed, it is thyself who shall die after having stung.'"

"In the hives there are males and females, but all alike in appearance, so that man cannot distinguish them. The work is done by both sexes. The brood is hatched when the season arrives; chiefly in spring the germ is spit out into the cells, as is the case with other flies—the life of the bee is not known.

"Death takes place either once or twice a year from fatigue or that the old bees over-eat themselves and returning to the hives are suddenly killed and thrown out by their comrades. European bee-keepers call them drones.

"Swarms are groups of young bees which leave their cells and rush out to hive alone and at their ease.

"Bees spend their nights out of doors, except Thursday evening, when all return home, because of Friday the holy-day.

"Honey is gathered from all flowers and sweetened by the bee, who swallows it as nourishment—it ripens in the stomach and is

deposited later on in the combs as excrement; the sap of flowers and juice of fruits being the only nourishment taken by the bee, their excrements are very clean for our consumption.

"Wax is collected from flowers sticking to their feet, carried into the hive, and kneaded to a dough for the construction of comb."

[The above is so exceedingly interesting that it cannot fail to waken every one's attention.—R.H.H.]

YORKSHIRE AGRICULTURAL SOCIETY.

We beg to remind intending exhibitors that the general entry for the above society's show at Doncaster closes on the 9th inst.

Entries at double entry fees will be received up to Saturday, June 16.—Vide Advt.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A NOVEL BEE-HIVE.

BEES TAKING POSSESSION OF A LETTER-BOX.

[4001.] I thought it might possess some interest for your readers to give particulars as to what happened here last summer in reference to a swarm of bees, and which may be briefly stated as follows:—A few years ago, before the "every other day" delivery of letters was instituted in this rather out-of-the-way district, I had affixed to a tree, about 200 yards away from the house, and for my own convenience, a letter box, 20 in. high by 18 in. both ways, in which letters for me were to be placed by our postman. Last summer a swarm of bees took possession of the box. For some days after this happened the letter-carrier dropped my letters as usual into the box. But at length it became evident that the postman and the bees did not understand each other, and that the new occupants of the letter-box resented the dropping of letters in among them. Consequently he was stung several times. The recipient of the letters—*i.e.*, myself—had also to depart very promptly from the place at times when going for the letters. One letter was actually thrown out of the box by the bees after being put in—as it was not addressed to them, I suppose. I was quite ignorant of "bees and their ways" at the time; indeed, I know only very little about them yet. I was, however, advised to leave the bees where they had taken up their residence, as "a swarm of bees was worth money." So I took the advice, and ordered the letters to be delivered elsewhere until I got a new box made. The only thing I knew about bees was that they were troublesome little creatures for those who knew nothing about them to meddle with, and for that reason I had the same dislike for coming to close quarters with them as many others have. But my interest became aroused through the novel occurrence detailed above, and eventually I had the box and its contents removed up to my garden, and placed it on a stand there. In removing the box I was much surprised at its heavy weight. It was at the time over 40 lb., whereas the box was not over 10 lb. or 12 lb. when empty. This tended to increase my interest in the "busy bee," and I have since talked about bees and bee-keeping to many persons. I have also read a little about them. Recently, however, I was made aware of the existence of the BRITISH BEE JOURNAL and several other publications on bee-keeping. I have, in consequence, procured the "Bee-Keepers' Guide Book," which I have found very interesting and instructive, and taken your paper.

Bees are kept by many people in this district, but all except one keep them on the old system of straw skeps and "smothering" in the autumn for the sake of the honey. This cruel, unclean, and unprofitable method is now quite out of date, compared with what is taught in modern books and by the aid of modern appliances. In the little I have so far read it is made clear that bees properly managed can be kept with profit. I can also see that the way my "letter-box" swarm got "managed" in the beginning was far from right, I know now; but what to do with them in the future is a problem to me at present, and if you can help me out of the difficulty I will be much obliged. There would, of course, have been little trouble in getting the swarm out of the box when the bees first took possession; but as you will see from the construction of the box, as sketched, it would be very difficult, if not impossible, to get the bees and combs out now, as the combs will probably be built against the door, which cannot now be opened in consequence. It is evidently full of comb, but I do not know how the bees have managed their work, seeing that the entrance is at the top, not below as usual.

The bees are very numerous and busy about the entrance at time of writing, and I expect a swarm will issue before long. May I therefore ask you (1) how to manage the stock in the box? and (2) what to do if the bees swarm? I am quite a novice at such work.—T. A. LLOYD, *Adsolwen, Leanon, Aberystwyth, May* 29.

[We should leave the bees in box and allow them to swarm; then put the swarm in a frame-hive in the usual way. Twenty-one days later there will be no brood in the box, and if "expert" help is available the bees and combs may be got out of box, and put in a frame-hive.—EDS.]

(*Correspondence continued on page* 226.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The "Notes" sent by Mr. Robinson (seen in his bee-garden on this page) are interesting and useful as introducing to us an artisan of the best type, one who makes a "hobby" of entomology, and becomes an enthusiast in the pursuit. It also says much for bee-keeping that our friend now finds more interest in bees than entomology, and we commend to the notice of other good "good wives" the happy idea of that present of a couple of skeps, and its happy results as detailed by Mr. Robinson, who writes :—

"As requested I send a few notes of my bee doings, but am afraid they are hardly worth occupying your valuable space.

"I am by trade a ribbon-weaver, and like many others, very fond of outdoor 'hobbies,' one of my first being entomology, which I followed closely for upwards of twenty-five years. The result was my possessing one of the finest collections in Warwickshire. To obtain these specimens took me from my home many days and even nights, a state of things that did not quite meet with approval from my good wife, who grew tired of my hobby in consequence, and as I had often expressed a wish to obtain a hive of bees, she bought me my first two stocks in straw skeps, with the idea of keeping me at home a little more. This it certainly did, for I soon became more interested in bees than in entomology. I also found that bees were not only a source of great pleasure, but began to think they could be made one of profit, and, not being satisfied with straw skeps, I set to work to make a frame-hive according to the instructions given me by an old (shall I say expert ?) bee-keeper.

"After working this hive for some time I found that everything about it was made the wrong size, and in explanation of the mis-measurements he told me that 'the size of hives must have been altered.' I therefore set to work again and made some to the 'new size,' only to find myself wrong again. This was fifteen years ago, and it was not until I fortunately discovered a periodical called the BRITISH BEE JOURNAL that I got into the right path, and I have been thankful for the aid it has rendered me ever since. I feel that I should not have become a bee-keeper without its help.

MR. H. ROBINSON'S APIARY, COVENTRY, WARWICKSHIRE.

"My present apiary (which contains sixteen stocks) as seen in the photo, along with your humble servant, is situated over a mile from my home. The district is not very good for bee-forage, though I have had some fairly heavy 'takes,' but nothing to equal those reported by some of our friends. I work mainly for extracted honey, the bulk of which I sell at 1s. per pound, and am never anxious about getting it off my hands in a hurry. I like to guard against bad seasons so that I can always supply my regular customers.

"After working ten hours a day I find plenty to do in attending to the bees, making my own hives, &c., and, in addition, managing upwards of sixty stocks for bee-keeping

friends in and around Coventry. All this work would get beyond me in the busy season but for the help of my good wife, who never fails to take her share in the labour, while the longer we live the more interested do we become in bee-keeping.

"Like most bee-keepers, I am ever ready to assist beginners, and whatever knowledge I possess is always at their disposal. During all my experience my own apiary has never yet been troubled with foul brood, though I have dealt with it once elsewhere, but that is quite enough for me.

"I always endeavour to keep my stocks strong, with young queens, and do as little manipulating as may be consistent with proper management. I increase my stocks by building up new ones from driven bees, which would otherwise be condemned to the sulphur pit.

"All my colonies consist of the ordinary English Blacks (? German); they are good workers, quiet-tempered, and for this climate I think they cannot be beaten.

"Finally let me say I never allow my bees to swarm, and am able to prevent it by giving them plenty of room in advance.

"Trusting that all your readers will have a good time of it this year, I wish them every success."

CORRESPONDENCE.

(*Continued from page* 224.)

SWARMS UNITING.

[4002.] A rather remarkable thing occurred here on Friday, May 25. Three large swarms issued at the same time from three of my hives, and during the usual careering about in the air while on the wing the bees all got mixed up, and finally settled down in one enormous cluster. Being unable to separate the swarms, they were hived in a box, and are now working harmoniously together. In view of the big lot of bees to deal with, would it not be best to super with shallow frames instead of sections? We are expecting a good time for bees here shortly, as the white clover is already making its appearance in bloom, and the apple blossom has been most abundant. Indeed, there is every prospect for a lot of fruits of all sorts here in Cornwall.—P. B. G., *Tideford, St. Germans, May* 29.

[We should certainly work so abnormally strong a lot of bees for extracted honey, under all the circumstances.—EDS.]

SURPLUS HONEY OF 1900.

[4003.] It may interest you and all B.B.J. readers to hear that I have this day taken off a row of very fine well-filled sections. Is not this exceptionally early for sections?

From this same hive I last year took fifty sections of excellent honey.

I am only a bee-keeper of two years' experience and am situate on the famous Clayton tunnel, and six and a half miles from Brighton. I find that the shaking of the trains makes no difference to my busy workers.—D. H., *Hassocks, near Brighton, June* 2.

[Yours are the first well-filled sections for 1900 of which we have so far heard, but with regard to June 2nd being "exceptionally early for sections," it is no uncommon thing in the south to have sections fit for removal at the latter end of April in an early season.—EDS.]

EXPERTS AND FOUL BROOD.

[4004.] So much has been written in the B.B.J. lately about foul brood that I would like to have your esteemed opinion on the following:—I have had occasion to be in the company of two experts (at different time) when they were examining bees, and I noticed that expert No. 1 invariably used a pin from the corner of his waistcoat on any suspicious looking cells, some containing foul brood and some healthy larvæ. No. 2, on the contrary, used an old pocket-knife, and after probing the beastly stuff, stuck the point of the knife in the ground. The next hive examined was perhaps healthy, but the same knife was used on a cell containing only chilled brood. Seeing, then, how frequently we are told by all authorities that foul brood is very infectious, I ask, would not those articles (the pin or knife) carry the disease from one hive to the other? or do you think there would be no danger? Any way, after seeing the above performances I refuse to have my bees examined, knowing them to be healthy.—DUBIOUS, *Sussex, June* 4.

[There can be no doubt that culpable carelessness was shown by both experts referred to if the above details are strictly accurate, and fully justify our correspondent's refusal to have his bees handled under the circumstances.—EDS.]

Queries and Replies.

[2413.] *Horse Stung by Bees.*—On Sunday, May 27, some bees stung a horse that happened to be tied up in the meadow next my garden, where my hives are placed. A swarm issued from one of the hives at 2.15 p.m. on that day and the horse was stung at 11 a.m. The owner came to me at 5 p.m. to ask me what was to be done, and declaring that my bees had done the mischief. At the time of the complaint he had taken no steps to get advice about the horse. Without waiting to consider whether my bees were or were not at fault, I at once made a solution of ammonia and bathed the animal with it, but soon saw

that the mare was in a bad way. I therefore rode off to get help from the veterinary surgeon. However, after sitting up with her all night, she died in the morning. May I ask for your advice under the circumstances? For my part, I do not think the trouble was caused by my bees at all. I was in the garden almost the whole morning and was certainly present at 11 a.m., and saw nothing unusual about any of my hives. I may add that the owner of the mare could not tell me whether it was a *swarm* or not, only that the horse was covered with bees. Do you consider that I am bound to compensate the owner for his loss, which I am sorry to say I can ill afford to do?—A CONSTANT READER.

REPLY.—It is quite impossible for us to give an opinion with regard to liability from the few details furnished. Unless, therefore, some arrangement can be arrived at, we fear the case would have to be adjudicated on by a County Court judge.

[2414.] *Drone-Breeding Queen.*—On July 31, 1899, the queen from a "cast" got lost while out on her mating trip. I therefore gave a black queen raised in a nucleus hive which had not at the time begun to lay. The hive yielded fifteen sections (from my best I got 132), and in my note-book I find the entry: "October 6, 1899. Bees on five frames; plenty of stores in seven frames; no brood." They wintered well, however, and seemed strong in spring. On May 26, when I examined them, I found about two frames of bees and some eight to ten square inches of drone-brood in all stages in worker-cells, with abundant stores. I removed the queen (which I enclose) and joined the bees to a weak stock having a fertile queen. There was not a single cell having worker-brood. I therefore ask:—1. Can this be the queen which I gave on July 31, or did she die late in the season and her successor failed to get mated? 2. Can these drones be relied on for fertilising young queens? On May 25 the first drone-eggs were deposited in my strongest colony. 3. On what date may I safely remove the queen from another colony in order to get queen-cells started, so that the drones may be ready when they are needed? Last year I waited till the drones were actually hatched out; but perhaps I may start earlier. I had also another drone-breeding queen this season, but it is clear that it was owing to age. On July 5, 1899, a skep (queen's age uncertain) swarmed. On July 29 the swarm swarmed. I cut out queen-cells and returned the swarm. A few days ago, on examining the hive, I found the queen, a very few bees, and a small patch of drone-brood, but no worker-brood. Probably the queen's failing powers induced the bees to form queen-cells, and hence the virgin swarm, which I unwisely returned. Regarding the first-mentioned hive, I cannot find from my notes any mention of brood after queen was introduced, nor can I remember having seen brood, but had the impression that breeding was going on all right. Likely I would have got this impression by examining the hive and seeing the brood; but if so, I made no note of it. The cast came off on July 24 and weighed 6½ lb. If it were possible for 6½ lb. of bees to collect, say, 40 lb. of honey, and ten months afterwards to cover two frames *without increase*, then the queen may never have been mated at all. But I think this is very unlikely.—A. HENRY, *Wick, N.B., May* 29.

REPLY.—1. Either of your suggestions may be right, but it is impossible to say which. 2. Yes. 3. Defer removal of queen till drones are nearly ready to hatch out, say about June 16.

[2415.] *Clearing out Frames of Comb for Use.*—I have several new last year's combs built in both standard and shallow-frames, some of the honey in which was not removed by the extractor. I now see that the honey has fermented, but the combs are so good in every way that I am sorry to have to melt them down and afraid to use them later on to the bees; what do you advise? Is there any way of removing the honey and leaving the combs clear?—HEXAGON, *North Wales, May* 26.

REPLY.—We should place the frames in some quiet sunny corner forty or fifty yards from the hives if convenient, and allow the honey to be cleared out by the visiting bees, which are sure to find it out. It will do no real harm as food at this season, and if managed properly the outside-feeding will cause no upset in the apiary.

[2416.] *Requeening Stocks.*—On examining my hives a week ago I found two stocks which needed requeening. No. 1 was queenless, and being fairly well-stocked with bees I inserted a frame of brood and eggs from a strong hive, thinking that from this the bees would raise a queen for themselves. No. 2 had brood and a few eggs in two or three combs, while the bees covered about five frames; but I judged from the way the eggs were deposited in cells and the general appearance of queen that she was about worn out. I therefore placed a frame of brood and eggs in this hive also, without removing the old queen, thinking the bees would raise a new queen and dispose of the old one when necessary. On looking to-day, however, I find that no queen-cells of a definite nature have been constructed in either hive, and as I am anxious to push these stocks forward, I will be obliged if you could let me know what steps to take in order to make sure of queens being raised? Both stocks have been regularly fed.—A. K., *Carlisle, May* 26.

REPLY.—No. 1 hive has probably been for a long time queenless, and the bees now in the hive, being all old, evince no desire to raise a queen. With regard to No. 2, you must first

remove the old queen, and four or five days later cut out any embryo queen-cells that may have been started; then give a frame containing eggs and brood in all stages. If examining later on several queen-cells are found sealed over, you might try if No. 1 hive will accept one, but it is not at all certain that the bees will do so.

[2417.] *Using Second-hand Hives.*—I was much interested in the various remarks throughout your last issue concerning foul brood. I have just started bee-keeping in a small way as a pastime and study, and saw your journal for the first time last night. I notice that you answer anxious inquirers, and therefore solicit your help by saying:—1. I have four strong healthy stocks in wooden hives, and desiring to be prepared for swarms I have lately purchased a second-hand hive and made a few extra ones. In one of the hives I purchased a peculiar smell was observable, and I also noticed that many dead bees were in it, and having read Mr. Cowan's "Guide Book," I suspected foul brood. I therefore send you a specimen of comb taken from this hive, and would like to have your opinion about it. I do this both from a desire to keep the disease away from my own stocks, and also that I may inform the person who sold me the hive that there is foul brood amongst his bees if you say so, as he seemed not to be aware of anything amiss, attributing the death of the bees to bad wintering or loss of the queen. 2. When a queen is old and laying poorly, is it good to kill her and let the bees rear a queen from the young brood, or shall I wait till the first swarm comes off?—K. D. M., *Dumbartonshire.*

REPLY.—1. The comb sent is badly affected with foul brood, and in consequence you should on no account use the hive it came from without being first thoroughly disinfected. All frames and combs should be burnt. 2. Best to kill the worn-out queen and let the bees raise another. It is not likely that they would swarm naturally.

Echoes from the Hives.

Terrington, St. Clement, Lynn, Norfolk, May 29.—This has been a busy week for bees and bee-keepers in our neighbourhood. On Tuesday (May 22) I noticed the hum of bees very distinct and found it proceeded from the sycamore (*Acer pseudo-platanus*). The trees were covered with bloom, but whether honey or pollen was the object of the bees I do not know. Can you enlighten me? [Honey, not pollen.—EDS.] I have put supers on several of my hives and am using shallow-frames rather largely, as I can dispose of extracted honey best. On one hive I have already put on one section-box of frames. A few of my stocks are rather weak, but two "Wells" hives are crowded with bees. As the nights—and some of the days too—are still cold, I have replaced all the winter coverings on the hives above supers. On the 24th I was sent for to hive a swarm for a friend. The bees were hanging on a gooseberry-bush, and when I cut the branch off I found half the bees were still on the ground. I shook all I could into the skep and left it for half an hour close to where the swarm had alighted. I then put them in a frame-hive. In a short time I noted bees were dividing their attention between the original skep and the hive. The latter was then placed where the skep had been, with the result bees were soon merrily at work. At night the positions of the stock and swarm were reversed, but by midday on 25th half the swarm had returned to the skep. "Not orthodox treatment," says an old bee-keeper. Well, perhaps not, but the best I could do with my limited knowledge of bee life. I ultimately compromised matters by placing the frame-hive where the stock had been and setting the skep above the top bars and letting the bees work down. Generally speaking, bees are three weeks earlier this year than last and are taking advantage of the enormous quantity of flower now to be found on every tree and field. —W. J. BELDERSON.

"GREASY" SECTIONS.

Dr. D. A. McLean, in the March 1 issue of *Gleanings*, has given us quite an amount of testimony in regard to the greasy appearance of cappings of section honey; also W. M. Whitney; and the latter seems to be very anxious to buy all such queens from apiarists who hold that the queen is responsible. Dr. D. A. says he wishes to lend his assistance to "sit on" Dr. Miller and other writers who advise the killing of queens that are held responsible for producing the greasy appearance of cappings of comb-honey. Now, Dr. McLean, I make a speciality of producing section comb-honey, and have always held the queen responsible for the greasy appearance spoken of, and I am still of the same opinion, unless you can unravel the following:—

I will give only one instance, and upon this you can see conclusive evidence, I think, if you will turn to *Gleanings*, 1898, page 690. Now, from the reading of your observations, it seems that you base your conclusions upon the condition of the weather and flow of nectar. This being so, why was it that all my colonies during 1897 and '98 produced just as beautiful white-capped honey as is shown in view No. 1 and 2, page 690? and one colony producing the greasy-looking capped honey, both 1897 and '98, as shown in 3 in same view?

In presenting the view of section honey shown, it was a test case of three different styles of separators; and it so happened that

No. 3 was produced by the queen's colony that produced nothing but greasy, smeared, capped honey, both brood as well as section honey; and in presenting the view I then asked for the opinions of the brethren as to the cause of No. 3 showing so dark. Of course, any honey producer could have told the cause, but coming up as it did, all would naturally think the separator had something to do in the matter; but if you turn to page 844, you will see my answer as previously promised, and the queen lost her ruling, notwithstanding she was the most valuable honey-gathering queen I ever owned; and if Mr. Whitney is a producer of extracted honey, he is quite wise indeed in purchasing such queens.—J. A. GOLDEN, in *Gleanings* (American).

Bee Shows to Come.

June 6 to 9, at Winchester.—Show of Honey Hives and Appliances, Hants and Isle of Wight B.K.A., in connection with the Royal Counties Agricultural Society. Schedules from E. H. Bellairs, Hon. Sec., Winkerton, R.S.O., Hants.

June 18 to 22, at York.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. Edwin H. Young, Secretary, 12, Hanover-square, W.

July 12 and 13, at Spalding.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 12.**

July 18, 19, and 20, at Doncaster.—Bee and Honey Show in connection with the Yorks Agricultural Society's Show. Schedules from John Maughan, Secretary, York. **Entries close June 9.**

July 23.—Caergwrle Castle Flower Show. Open class for six 1-lb. jars of extracted honey. Schedules from H. S. Davies, Abermorddu, Wrexham.

July 26, at Loughton, Essex.—Honey show in connection with the Loughton Horticultural Society's Annual Exhibition. Five classes for honey and one for wax, open to the county of Essex. Entry fee 6d. Schedules from G. F. O'Fflahertie, Moughyr Cottage, Loughton. **Entries close July 20.**

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from Hon. Sec. Devon B.K.A., Park House, St. Thomas, Exeter.

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations and lectures in the Bee-tent of the Worcester C.C. by the Rev. E. Davenport.

August 6 and 7, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 29, at Congleton. Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester.

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** (See advertisement on page vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. W. (Wisbech).—*Transferring Diseased Stocks.*—The comb marked No. 1 has no trace of any brood in it, nor is there a single capped cell except such as contain honey or syrup-food. The comb, however, is about useless for breeding purposes, as nearly every cell is occupied with either food or pollen. In No. 2 foul brood is developing fast, so we should give up all notion of transferring the bees of affected skep to frame-hive as intended.

HEXAGON.—*Suspected Comb.*—Comb sent contains nothing worse than honey (or syrup) and pollen.

W. P. (Port Glasgow).—There are in comb sent traces of foul brood in the incipient stage.

K. CONDOR (Bognor).—*Transferring from Skeps to Frame-Hives.*—We do not advise transferring old combs from skeps to frame-hives at all. It is far preferable to allow the bees to transfer themselves, as so often advised in our pages.

R. M. T. (Kingussie).—*Suspected Foul Brood.*—We think the hive is affected with foul brood, but as the very small piece of comb sent contains only dead drone-brood in worker-cells, we cannot say definitely without another and better sample. In any case it would appear that the stock contains either a worn-out queen or a fertile worker, and is in consequence worthless.

W. H. (Burton-on-Trent).—*Using Old Combs in Hives.*—Combs such as sample sent, being mouldy and with three parts of the cells filled with hard, useless pollen, are quite unfit for use in the hive. They are also scarce worth melting down for wax. We should burn them.

(Mrs.) C. B. M. (Yorks).—*Transferring Bees and Combs to New Hives.*—1. Since the stocks are strong and bees doing well in their present hives, we should not trouble to move them into new ones till the end of honey season. The new hives will, of course, be preferable for any swarm that may issue, and so long as all frames used are of standard size they will fit any hive made to take that size frame. 2. Any of our advertisers will supply the "Cowan" hive to order, and you can also get the "Weed" foundation by naming that particular "make."

J. Brewer (Sussex).—*Naphthol Beta Solution.*—We do not send out N. Beta in liquid form, but it is quite a simple matter to dissolve as directed in "Guide Book." As you have twenty stocks of bees, "some working well in sections," we should advise you to destroy the diseased lot rather than attempt a cure, for fear of infecting the other stocks.

B. P. (Reigate). — We cannot detect any disease in comb. The brood appears normal and a good deal is already hatching out. Leave the hive till twenty-one days from issue of the swarm; then examine, and if any sealed brood-cells are seen, cut them out and send on, when we will again report.

J. H. (Saltash).—*Suspected Foul Brood.*—Foul brood is rapidly developing in comb sent.

C. M. (Devon).—There are slight signs of incipient foul brood in combs.

W. D. R. (Swansea).—A bad case of foul brood, requiring drastic treatment.

J. W. (Northumberland). — Though slightly suspicious, we cannot detect actual foul brood in comb.

*** We advise all the above inquirers to carefully read the article on page 202 of B.J. of May 24.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, natural healthy SWARMS; on rail, 10s. 6d. T. Love, Kirvennie, Wigtown. 935

NATURAL healthy SWARMS, packed in skeps, free on rail 10s.—John Woodward, Fladbury, Pershore. 941

WANTED, EXTRACTOR. State make and lowest price. W. Fordham, Royston, Leckhampton, Cheltenham. 942

"HONEYSLICE" SECTION WRAPPERS, artistic colours, 2s. per 100, of all dealers. Samples free from Bell, Beverley House, East Barnet. 940

NATURAL, healthy SWARMS or STOCKS. Package free. Fison's Apiary, Horningsea Isle, Cambridge. 934

SWARMS FOR SALE, healthy and strong, 10s. 6d. each. Boxes to be returned. E. Long, Fulbourne, Cambs. 937

HYBRIDS FOR PROFIT.—My Virgin Queens (Italians and Carniolans), 2s. 6d. each; three, 7s.; five, 10s.; from selected mothers in perfect Introducing cages; safe arrival guaranteed. Spearman, Colesbourne, Andoversford. 938

Prepaid Advertisements (*Continued*).

FOR SALE, new "W.B.C." HIVE, zinc-covered roof, crate, 21 sections, painted, 25s. Short, Saltash, Cornwall. 926

NATURAL SWARMS FOR SALE, 10s. each. Apply, H. Holleworth, Manor Farm, Wysale, Notts. 925

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Horsley, Merridale House, Top of Castle Drive, Isle of Man. 932

SWARMS FOR SALE, at 10s. 6d. each. Empties to be returned. Address, F. Barks, Rempstone, near Loughborough. 913

EIGHT grand STOCKS BEES in frame hives. What offers? Brock, The Laurels, Woodbridge-road, Ipswich. 922

SWARMS of superior BEES, 10s. 6d., 12s. 6d., and 15s., packed free. John Walton, Honey Cott, Weston, Leamington. 907

SWARMS, packed in skeps, and rail carriage free, 12s. Cash with order. Mrs. Kime, Mareham-le-Fen, Boston. 921

FINEST Prolific Queens, Stocks, Nuclei, and Swarms. Queen-rearing a speciality for 13 years. List free. Rev. C. Brereton, Pulborough Sussex.

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. Simmins, Heathfield, Sussex.

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. Edwin Glossop, Ambergate. 828

PROLIFIC QUEENS, 5s. now. Orders requested for stocks, swarms, nuclei, and home-bred queens—Italian, Carniolan, and Black. E. Woodham, Clavering, Newport, Essex. 933

YOUNG MEN WANTED to work on a fruit farm (150 acres). Knowledge of bee-keeping preferred. Permanency. Address, Manager, Aylmer Hall Fruit Farm, near King's Lynn. 919

24TH YEAR.—SWARMS, 10s. 6d., 12s. 6d., 15s., Cases free. Three wire-framed Nuclei, Queen, Bees, and brood, 12s. 6d. Cases returned. Alsford, Expert, Blandford. 930

"W.B.C." HIVES, FEEDERS, SWARM CATCHERS. Make your own at third the cost. For particulars, send stamp to Prideaux, Whitchurch, Salop. 777

TANNED GARDEN NETTING.—25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Only best quality supplied. L. Wren & Son, 139, High-street, Lowestoft. 818

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). Jas. Dyson, Stainforth, Doncaster.

THE most satisfactory departure in the South for imported Hybrid and Virgin Queens. Swarms a speciality. My hives guaranteed waterproof in winter. List free. Spearman, Colesbourne, Andoversford. 934

BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. Edward Reynolds, Glove Manufacturer, Andover.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2½, 3, and 3½ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 9d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. Woodley, Beedon, Newbury.

FOR SALE, BEES, HONEY, HIVES, and APPLIANCES,
New and Second-hand, Cheap.
SPECIALLY CHEAP, well-made HIVES, catalogue price (new) 24s., for 18s. to effect a speedy sale.
H. N. BAXTER, Sedbergh, R.S.O., Yorks.

Editorial, Notices, &c.

A B.K.A. FOR MONTGOMERYSHIRE.

In response to a circular issued by the Rector of Montgomery, a number of enthusiastic bee-keepers from Montgomery, Newtown, Forden, Kerry, Churchstoke, Llandinnier, Luggy, Marton, Rhydyware, and Berriew attended a meeting at the Lion Hotel, Caerhowel, on the 30th ult. The primary objects in view were the formation of an Association of Bee-keepers, the establishment of a depôt for the sale of appliances, and the question of holding an annual honey fair. Under the chairmanship of the Rev. E. W. Brown an Association to be known as "The Severn Valley (Montgomeryshire) and District Bee-keepers' Association," with Rev. E. W. Brown as President and Mr. W. Stourton as Secretary, was formed. Many members were enrolled at the meeting, the terms of membership being 2s. 6d. to those other than cottagers, whose annual subscription is 1s. A depôt is already in course of erection at Newtown by Messrs. Jones Brothers. The first meeting of the Committee was arranged to be held on Wednesday, June 13, at the Lion Hotel, Caerhowel, at 6 p.m.

MISHAP WITH BEES.

CULPABLE NEGLIGENCE IN PACKING OR HANDLING.

A correspondent sends us a cutting from the *Tenby Observer* of the 7th inst., which reads as follows :—

"Last week a hive of bees was being taken off the collecting waggon belonging to Messrs. T. John & Sons, carting agents at the Old Milford Station, for the purpose of being despatched by passenger train to a consignee in London. By some means or other the cover of the hive got partly opened, allowing the imprisoned bees to escape. The bees immediately attacked the two horses and the carter, and a stampede followed, the terrified horses kicking and prancing, and rendering it almost impossible for the carter and the agent, Mr. Henry John, to hold them in check. After a great deal of trouble the horses were released from the waggon, but not before the men and horses had been stung to a great extent by the infuriated bees. Mr. Henry John had no less than forty bee-stings in his face, neck, and head, and when he was seen at his residence late in the evening he was in a condition pitiable to behold, his face being about twice its normal size, and suffering intense agony. Several of the railway staff were stung by the bees, who attacked everybody, irrespective of position, who came within thirty yards of the hive. The shunting operations in connection with the daily fish train were conducted under the greatest difficulty, the guard and shunter being frequently stung during the carrying-out of their duties. At one time the bees attacked with such vigour and force as to cause all operations to be temporarily suspended. The bees retained full possession of the waggon and the surrounding ground for several hours, but after the sun had gone down they were removed from the station premises."

We do not like to judge from hearing one side of the case, but it seems as if there was culpable negligence in either packing or handling the hive referred to. Such incidents are in any case deplorable and tend to cause a good deal of animus against bee-keepers among people who know nothing of the craft.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of May, 1900, was £2,911.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

A SWARM OF BEES ON THE MARCH.

[4005.] I thought it probable that the following may possess some interest for you or your readers :—When cycling this morning on my usual professional "round" I was not a little astonished to see a swarm of bees *walking* in procession, like a long brown snake, along the narrow footpath bordering the main road from here to Newark. The resemblance to what one could suppose Lord Roberts's army on the march would appear like at once struck me. There were some few bees flying ahead, representing the "cavalry scouts"; then came the main army in serried ranks, extending to a length of several yards, all marching on foot—these were the "infantry," of course; and, finally, separated from the main body by about 2 ft., but with "scouts" passing to and fro, came a considerable cluster forming the indispensable "rear-guard." A man working on the road informed me that the whole swarm had thus advanced

about 20 yards since he had first observed them some time before.

I at once rode back to the house of a bee-keeper I knew who lived near, and, failing to obtain a skep, got a box of shallow frames with combs built out and an old newspaper. Returning, I placed this "Pretoria" directly in front of the advancing army, covering the box with the newspaper and propping it up in front with a stone. I then continued my journey, and on my return found, as I had expected, that "the army" had "taken possession of the town," and that "all was quiet." This evening I drove over and took possession of the swarm, which I have now safely established in my apiary at home. Knowing, as we bee-keepers do, the loyalty of bees to their queen, it almost looked as if these little wanderers had caught up the patriotic spirit of the day. Anyway, I have seen many swarms, but this is the first time I ever saw one *walk*.—(Dr.) Percy Sharp, *Brant Broughton, Newark, June* 6.

[The above is not only interesting, but our correspondent's simile is a very happy one, there being little doubt that the queen's inability to fly kept the bees loyally marching on foot rather than take wing and desert her. —Eds.]

ENTRY FEES AND OUTSIDERS.

[4006.] I applied for a schedule and entry form of the "Royal" Show held at York this month, and on reading it over I cannot help saying that it looks like boycotting outsiders—such as myself, who have no bee association in their county—to charge us double entrance fees. I think it would be quite enough for us to bear the extra carriage for sending our exhibits so far, without the infliction of double fees. I meant to have supported the show by making an entry or two, but consider there is neither fairness nor very much sense in the present arrangement, which gives outsiders no chance at all.—Jonathan Braithwaite, *Arcledon, Cumberland, June* 4.

[While agreeing with our correspondent as to the hardship in his case, we can do no more than remind him that the reduced entry fee is one of the privileges of membership of a B.K.A. Moreover, he may overcome the difficulty in future by joining the nearest association to his own county.—Eds.]

NOVELTIES (?) IN HONEY JARS.

[4007.] I have just returned from a little trip to the United States, and I see, for the first time to-day, the "Novelty for 1900" on page 218 of B.J. for May 31, Messrs. Abbott Bros.' tall square screw-cap honey jar. I can only say that it appears to be identical with the jar I brought out three years ago, and which I have been selling freely for a long time (see page 26 of my catalogue for 1900). I am sorry to appear cantankerous and mean no more than just to correct the impression that these goods cannot be bought elsewhere than from a certain firm. It is a good jar, with all the advantages claimed for it; but, so far, the great majority prefer the old round shape. Messrs. Abbott are quite welcome to all the *kudos* attached to its introduction, only your readers know such a jar can be bought at Liverpool also.—George Rose, *Liverpool, June* 7.

[The difference between the two jars in question consists in Messrs. Abbott Bros.' jar, as described, having a screw-cap of the ordinary type, but made of tinned steel; while the "Jubilee" jar, referred to by Mr. Rose, opens by means of a spring pressing on a rubber band.—Eds.]

GREASY SECTIONS.

[4008.] I was very pleased to see the article on "'Greasy' Sections" in B.B.J. for June 7 (page 228). My reason for writing on the subject is because some bee-keepers never have had, or never will have, "greasy sections," as our American friends call them there, for they do not know the cause and are apt to say unpleasant things against these sections when seen. For myself, however, I feel quite certain that the bees themselves are to blame. To confirm my view, let me say late in the season of 1898 a neighbour told me he had a swarm of bees on a gooseberry bush in his garden. They had been there three days, and he said if I liked to fetch them away I could have the swarm. I agreed, and got them accordingly. It was a very small lot, and I gave the man a shilling and a jar of honey in return for the bees. They did very well, and in 1899 I put sections on this hive and had some fine sections from it, many of them 20 oz. and some 21 oz. I entered them at a certain show; and they were placed third to some very poor sections staged in the same class. I also showed sections filled by ordinary or native bees in another class at the same show, and these got 1st prize, but I maintain my 3rd prize sections, first referred to, were the best sections in the show both for table use and weight, but they showed the honey through the capping. I have no doubt whatever that the little swarm I got were Tunisian, or African, bees, and Mr. Stone, of Weston-on-Trent, who has some of these bees, told me last week that the only fault he could find with them was bad capping. Mrs. A. J. Barber, Mancos, Col., U.S.A., tells of a stock of leather-coloured Italians that sealed their sections in this way, and she is doing away with them in consequence. Another American bee-keeper, Mr. J. A. Golden, Reinersville, O., writes in *Gleanings* (page 391) that he had one stock that produced greasy-looking capped honey both in 1897 and 1898, while all others were yielding beautiful white capped honey. Many other American bee-keepers, including Dr. C. C. Miller, speak of the same thing (page 206 of *Gleanings*). I therefore

think we can safely blame the bees alone for producing "greasy" sections.—J. P., *Derby, June* 11.

EXPERTS AND FOUL BROOD.

[4009.] I notice in your issue of June 7 a letter from some one who signs himself "Dubious" (page 226). As one of the "experts" referred to, I should like to say that, as your correspondent does not give his name or anything to indicate his whereabouts, I cannot tell whether I visited him or not. May I say that I am often writing to papers on different subjects, and as I always place my name at the foot of what I write, I never have replied, and never will reply, to any anonymous communication to which the name of the writer is not appended. In this case there is no fear of having broken windows or being called names, and I think no man should write against another without putting his name after what he says. If the writer of 4004 (page 226) will give his name, I shall have the greatest pleasure in replying.—JOHN PERRY, *Expert Sussex B.K.A., June* 11.

EARLY SECTIONS.

[4010.] On May 14 I put a rack of sections on one of my hives, and to-day, June 7, I took off twenty-one of the sections, beautifully sealed and all perfect. Do you not consider this very early?—(MRS.) E. B. BALL, *Roedean Apiary, nr. Brighton, June* 7.

[Yes, for so backward a season.—EDS.]

BEES NEAR BIRMINGHAM.

MY SECOND YEAR'S EXPERIENCE.

[4011.] My bee-keeping commenced with one hive in October, 1898. Last year I did but little good, but finished up with two stocks. These wintered well, and one swarmed on the 29th ult., although I had the super on. The other also has the super on, and I fear the bees in that will swarm. I say "fear," not on account of ill-success with my first swarm, but I wished to prevent increase, as my garden is small and my neighbours not too kindly disposed towards my hobby. I have not arrived at that stage when bee-stings make no impression on me. In fact, stings to-day have much the same effect as at the commencement of my experience, excepting that I am less alarmed at the swelling and can disregard the pain. How many stings must one have before they become innocuous?—A. J. P., *Birmingham, June* 7.

[The length of time before bee-stings lose their effect on the bee-keeper varies considerably, and some never become entirely free from more or less of pain and swelling. Most practical bee-men, however, in a couple of seasons or less, suffer neither pain nor inconvenience from a few stings, while others rarely get stung at all.—EDS.]

WEATHER REPORT.

WESTBOURNE, SUSSEX.

MAY, 1900.

Rainfall, 1·34 in.	Sunless Days, 2.
Heaviest fall, ·45 in., on 23rd.	Below average, 62·5 hours.
Rain fell on 8 days.	Mean Maximum, 56·7°.
Below average, ·47 in.	Mean Minimum, 41·2°.
Maximum Temperature, 66°, on 29th.	Mean Temperature, 48·9°.
Minimum Temperature, 34°, on 16th.	Below average, 2·7°.
Minimum on Grass, 31°, on 2nd.	Maximum Barometer, 30·47°, on 29th.
Frosty Nights, 0.	Minimum Barometer, 29·05°, on 25th.
Sunshine, 183·9 hrs.	
Brightest Day, 7th, 12·3 hours.	

L. B. BIRKETT.

MANAGING SWARMS.

I have before mentioned in your columns the fact that I largely practise hiving two swarms in one hive. These swarms may be either natural or artificial, or one may be a natural issue and the other artificial—it depends upon circumstances, but it is all practically the same thing, and the thought may have occurred to some who have not been engaged in our pursuit long whether it pays to hive two swarms together, and if more surplus can be secured in this way than if each swarm is allowed a separate hive. It undoubtedly pays with me, and I will endeavour to explain why. This will necessitate briefly describing my locality in respect to the time, character, and duration of its honey-flows or yields, for upon these things or conditions—or, in other words, the locality—largely determines the question of whether it pays to hive two swarms in one hive, but in this case the word "locality" must be considered in a broad sense or view, for the conditions in some of the middle or even southern States might be similar enough in some respects to what we have here to make the practice pay, while in other latitudes, even as far north as this, they might not.

As a usual thing the early spring flows here are sufficient to support brood-rearing, but after fruit-bloom, until white clover commenced to blossom, there used to be a short spell during which it might be necessary to feed in order to have brood-rearing kept up as rapidly as it should at this time; but of late dandelion bloom has bridged the gap between fruit and clover bloom. This has nothing to do with the matter being discussed, but I mention it because it is, to me at least, very curious how rapidly this dandelion bloom has increased. There has always been some here, but nothing compared to what there is at present, and formerly it was about gone soon after fruit-bloom. Of late it has kept in blossom more or less all the fore part of the

season, in fact it is becoming too much of a good thing, for I have had bees working on it while white clover was yielding, and when dandelion honey is mixed with that from clover it nearly ruins the latter, for it is dark, rank-tasting honey, fit only for brood-rearing, or to sell for manufacturing purposes.

The properties of the two plants are such as greatly to favour both being gathered from when they are in bloom at the same time, for white clover, as a rule, does not yield as well during the fore part of the day as it does the latter, and dandelion bloom yields and is at its best in the morning. Later on the blossoms completely close up, so that on low pasture lands here that may be literally yellow with its bloom in the forenoon, there may not be a single blossom to be seen in the afternoon.

Three years ago I extracted about 2,000 lb. of nearly pure dandelion honey before white clover commenced to yield. The latter usually commences to yield slowly about the 1st of June, and basswood, or lime, the 1st of July, and lasts about ten days. This gives us a white honey-flow of about forty days, duration, though the time this flow commences, as well as its length, may vary considerably, owing to the season or the failure of one or the other of its sources ; but I can say in favour of my locality that in my time clover and basswood have never both failed the same season. At least 80 per cent. of what swarms I have are made or issue during the first three weeks of June.

I can imagine some are now saying, "You are away off, old man ; you should have your swarming all done and out of the way before your main flow commences." This cannot profitably be done here. The time previous to this, that is, the length of time between settled warm weather and the fore part of June, has not been sufficient to make the average colonies become populous enough to swarm sooner naturally, and, so far as I understand it at present, artificial swarming should not be performed until it is a necessity, in order to prevent natural swarming. Many of the strongest colonies might swarm naturally about the 1st of June, but my practice towards the last of May is to take the combs of brood and young bees from the strongest colonies and exchange them with weaker colonies for empty combs, or those which contain no brood, and I consider that this pays, for it prevents a large proportion of the swarming that would otherwise take place, or have to be done.

Now it will be noted that what swarms I have, taking an average, will have about thirty days in which to gather white honey. As it takes the eggs about thirty-five days to develop into field-bees, it will be seen that these swarms have not time to develop brood into field-bees to work on this white honey-flow, so the less brood they rear the more surplus white honey, for what brood they do rear is reared on this white honey ; and another thing is, that with less brood to tend there is a larger force free for field-work.

Now, if two swarms are hived together in a hive the brood-nest of which is only as large as would be allowed if they were hived separately, only half the amount of brood can be reared that could be if they were each given a hive ; and from long practical experience in the matter I know that, taking one year with another, I can with swarms secure nearly, if not quite, double as much white honey by hiving two together ; and I work for white honey regardless of increase, and also of amber and dark honey. Whether the practice would pay if one desired these things to be considered is another question.

When hiving two swarms in one hive, if small hives are used, two stories should be allowed for a brood-nest until they get well started to work ; then the lower one can be removed and more surplus given in its place ; for often two large swarms will not stay and commence work willingly in one small hive, no matter how many supers filled with sections are placed on top. They can be forced to stay, of course, but this forcing is often a difficult matter, and they may sulk away much valuable time before commencing work.

Another important thing which will apply to swarms hived either singly or together is to keep the empty hives in a cool, airy place until needed. A swarm hived in a hive that has been out in the hot sun is much more apt to desert, and after the swarms are hived their hives should be kept well shaded for a few days. The most satisfactory shade is obtained by the use of a shade-board, which is large enough to project over the hive six inches or more all around. But this board should not rest down flat on the hive-cover ; if it does and is dark coloured, as they soon get to be when made from unpainted lumber, it may do more harm than good. Provided the cover is painted white, there should be an air-space of at least a half-inch between the two.

With cool, well-shaded hives, and at first a brood-nest in proportion to the size of the swarms, I do not consider it necessary to raise the hive up from the bottom-board all around. I allow only the usual entrance in front, and place a queen-trap or entrance-guard on until they get well settled down to work. Of late it is very seldom that I have swarms attempt to desert, but I do not wish to run any risk with these big, double swarms, and when swarms desert they often leave without clustering.

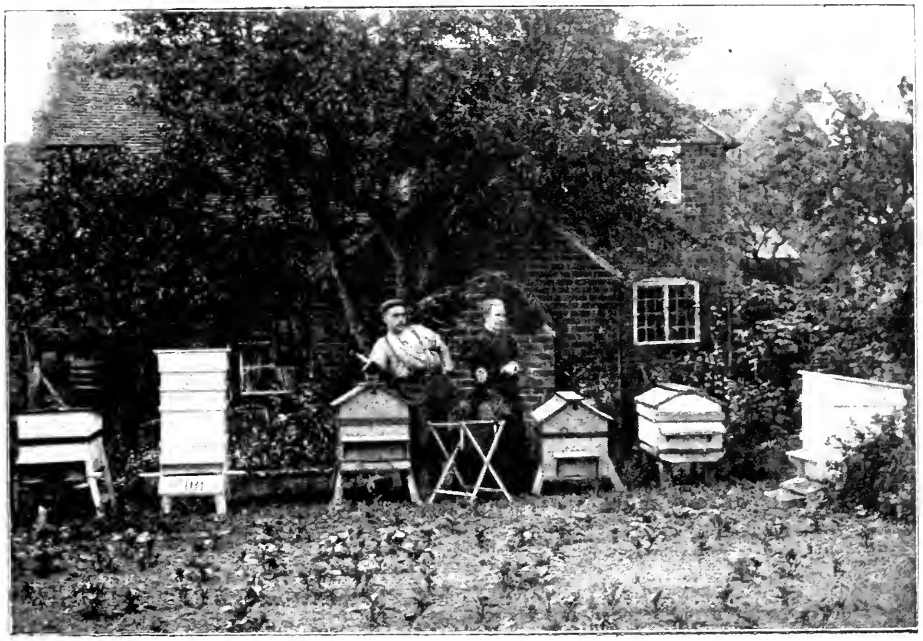
With clipped queens zinc is not so necessary, but it might prevent a clipped queen being lost or destroyed by crawling into another hive, but when it is used, and there are a great number of drones with the swarm, it should be removed when they are anxious to get out. Then if it is replaced, while they are having their flight, most of them will be shut out, and soon join the bees of other hives.—C. DAVENPORT *in* "*American Bee Journal.*"

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

We present below another artisan who is not only an enthusiastic bee-keeper, but one who makes his own hives, and has also succeeded in making a market for his honey. Having managed thus to overcome what are regarded by many as the "difficulties" of the craft, Mr. Buttery may be trusted to go on prospering in it. At our request he sends the following particulars regarding his bee experiences :—

"I am a blacksmith by trade and had just come in from work when photo was taken, which accounts for my appearance thereon.



MR. G. W. BUTTERY'S APIARY, WHEATON ASTON, STAFFORDSHIRE.

"Wheaton Aston is a small village which carries on an extensive trade in the hay-dealing line by supplying the town of Wolverhampton with hay, &c. Being well out in the country, it is a fairly good locality for bees.

"I commenced bee-keeping in 1895 with a swarm purchased in a straw skep from a local bee-keeper ; you will, therefore, see that I am not an old hand at the craft, like some of our friends whose pictures have appeared before. I saw bees kept on more modern ideas at a friendly carpenter's in 1897, and he being an enthusiastic bee-man, who made his own hives, offered to make me one and to give me a start in the way of working the same. This he eventually did, putting in a swarm for me, but not understanding the bar-frame hive sufficiently well, I did not, of course, secure much surplus the first year. Still, I became very much interested in the hobby, and after procuring and studying Cowan's 'Guide Book' I began to make better progress.

"I now commenced to make some hives myself, one like my first hive on the plan of Abbott's 'Combination' (No. 2 from the right in photo, while on the left of it stands my original hive). I next made one after Mr. Cowan's idea, of which the picture gives a side view on extreme right.

"I also at this time learned of the existence of the B.B.J., and at once became a regular reader, and have continued ever since, as I find it most instructive ; indeed, to it I owe a great deal of what I at present know in connection with bee-keeping. In 1898 I bought two colonies in frame-hives, making up my total stocks to seven (five frame-hives and two skeps). My honey for that year was—like most other people's—mostly spoiled by honey-dew, with the exception of some stored in a super on the top of a skep. This honey took second prize, when granulated, at the Staffordshire Agricultural Show.

"Until now I possessed very few appliances, but, having resolved to go in for bee-keeping more thoroughly, I purchased an extractor, ripener, and other needful things in the spring of last year, and my 'takes' now show a satisfactory increase.

"During the winter of 1898 I made a 'W.B.C.' hive from directions given in B.B.J., and in the following spring transferred

a stock into it, putting a shallow-frame super under brood-chamber fitted with 'starters' only. This gave good results, for, after leaving in ten frames of stores untouched for wintering, I had 75 lb. of surplus from it. This hive (second on the left) answering so well, I made another like it this last winter, and have stocked it in a similar manner. All my future hives will be made on the 'W. B. C.' plan, as I like them better than any others.

"As regards the sale of my honey, I have no difficulty in disposing of it at 1s. the 1-lb. jar or 1-lb. section. The second figure seen in picture is that of my mother, who assists me at extracting time and in selling the produce.

"I have nothing original in my way of managing the bees, as I take the 'Guide Book' and the various hints in B.B.J. from more experienced hands as my chief guide. But I do know that bee-keeping is a very fascinating 'hobby,' and the more one learns about them the better one likes the pursuit. I may mention that when I happen to get stung my flesh swells a good deal, so I am careful not to arouse the temper of the bees when manipulating. I notice, however, a distinct lessening in the effects following a sting than when I first started. I had two swarms on the 3rd inst., and successfully united them in a frame-hive at night. All my hives, of course, take standard-size frames. I conclude by wishing all readers a successful season."

Echoes from the Hives.

Honey Cott, Weston, Leamington, June 11.—Glorious weather here now for the bees—swarms galore! I had an 8-lb. swarm from one hive which settled on a large arm of an apple tree, about 15 ft. from the ground; so I took a small watering-can and gave the bees a nice drenching, also using smoker and a wet hand-brush, and brushed them into a skep. I then covered the swarm with a strainer and carried them down the ladder, and not a bee angry—no resentment for being served in such a way. Everything round here looks promising for a good honey harvest.—JOHN WALTON.

Queries and Replies.

[2418.] *Transferring Bees.*—Being desirous of transferring a stock of bees from one hive to another, I did so the other day as carefully as possible and succeeded as I thought very well. Much to my dismay, on going my rounds next morning I found the enclosed queen outside dead! I tried to nurse it back to life as I noticed its sting darting in and out after I found it. After half an hour's careful warming I gave it up as a bad job. 1. Is it an old queen? 2. Can you say cause of death? 3. The stock being very strong, shall I requeen or leave them to themselves? 4. Would it be a good opportunity to start two or three nucleus hives from queen-cells started in this stock, which is one of the best I have? I beg to tender my best thanks for the kind information given some few weeks ago, which I followed, *re* stocking "Wells" hive. Both stocks are doing well, though not yet ready for supers. I have four stocks working in surplus-chambers and trust to get my other two supered shortly.—W. P. B., *Caton, Lancaster.*

REPLY.—1. Queen is an adult but not an "aged" one. 2. Probably some internal injury when transferring. 3. If a fertile queen can be had it will be helpful in case you have a late harvest, but not otherwise. 4. To do that would ruin your chance of honey from the hive this year.

[2419.] *Driven Bees Dying in Spring.*—1. In September last I got two lots of driven bees in straw skeps. I fed them with syrup made according to recipe in "Guide Book." Both lots came through the winter all right, but about the middle of May one died; the other one, however, seemed to be working well as late as Sunday, the 3rd inst., but on the following day I went to look at them and found not a single bee left in the skep! Can you account for this? 2. I am only a beginner at bee-keeping and would like to try again. Perhaps you could recommend me to some reliable bee-man so that I could purchase a good swarm from which I would put into a wooden hive fitted with standard frames; if you could recommend me to some one in county Tyrone, Cavan, or some reasonable distance from here. I am about sixty miles from Belfast and thirty from Londonderry. I see plenty of swarms advertised in B.B.J., but they are all in England, and in my opinion too far away for them to reach Ireland in safety. What do you think?—DAVID KYLE, *Sixmilecross, co. Tyrone, June* 9.

REPLY.—1. Without any knowledge of the contents of the combs in skep deserted by the bees it is impossible to account for the disappearance of the latter. They may have been queenless, or foodless, or both, and so have taken refuge in some other hive. 2. Perhaps some appliance dealer in Ireland who is a B.J. reader may write you about swarms, but failing this there would be no difficulty in swarms reaching you from England or Scotland quite safe if properly packed.

[2420.] *Buying Diseased Stocks.*—On beginning bee-keeping two years ago I made the mistake of buying two stocks in frame-hives at a "sale" by auction. In May, 1899, an expert, on examining them, found both affected with foul brood—No. 1 badly, No. 2 slightly. As the bees in No. 2 were very strong, and disease only present on one frame, which was destroyed, I was advised to leave it for the summer, hoping the disease might die out.

The bees of No. 1 were at once turned out, and remained for forty-eight hours in a skep, feeding with medicated syrup, and afterwards putting them into a perfectly new hive, the combs, frames, quilts, &c., of the old one being burnt. This stock was requeened, and worked themselves up well, and from that time (May, 1899) till last week there was absolutely no sign of disease, the expert this April pronouncing them to be perfectly healthy and in excellent condition. Last Monday, June 4, the stock swarmed, which swarm was returned in the evening, and it was then, when looking for queen-cells, a suspicious-looking cell was observed, which was found to contain the well-known "coffee-coloured" substance. After careful search three other cells only were found in like condition on three different frames, the rest of the brood looking perfectly healthy in large compact masses, almost covering the frames from side to side. No. 2 hive was all the winter by the side of No. 1 (within 18 in.), and at the spring examination found so diseased, and so weak in bees that everything was destroyed on April 24. Will you kindly give me your opinion (1) as to whether the cured stock could have contracted the disease again from being so near No. 2 before it was destroyed? If so, would not the disease be further advanced by now? or (2) could it possibly be that a section-rack is the source of infection? I put a rack on about a month ago, which last year was on the diseased stock, but the rack has of course been thoroughly disinfected, first being scorched in a spirit flame inside and out, painted with carbolic one in two, and painted with two coats of paint. Nothing off the diseased stock has ever been left about, and hands and clothes always disinfected after touching it. 3. Would it be practicable with the section crates on the hive No. 1 to try Cheshire's remedy, spraying the combs and feeding with phenol, as the disease is so slight at present, or is it best left alone till after the honey harvest and then turn the bees out again?—M. P., *Devon, June* 11.

Reply.—1. It is a very reasonable inference—though, of course, not a certainty—to conclude that the disease has been carried from the affected stock No. 2 into the healthy one. We say this in view of the fact that bees of contiguous colonies enter each other's hives more often than is generally supposed. 2. After the "scorching" process undergone, we should not attribute the mischief to the section-rack. 3. Leave the hive alone till the honey harvest is over.

[2421.] *Bees Casting out Queen after Swarming.*—I send by post a dead queen, in respect of which I would solicit your valuable aid:—Yesterday evening (June 7) I hived a swarm—which I had secured in a skep two days before—into a new hive in which I had placed three combs of brood and honey from the parent stock. One of these transferred combs had two queen-cells unhatched, and one open and empty. Going into the store-room (just beside the hives) I was astonished to see crawling slowly along the shelf a queen-bee! Her presence here was unaccountable as I brought nothing from the hives to the room except an apparently empty (both of bees and honey) upper super, only put on the day before swarm issued. I took the queen to parent hive (as her most likely home) and placed her at the entrance, when she immediately ran in, dropping tiny white specks (which I presume to have been *eggs*) on her way in. Meanwhile I noticed *clumps* (three or four deep) of excited bees on the alighting board, and on brushing them apart discovered the "exciting cause," which was the queen (dead) I now send you for examination. I can say positively that the queen I put in and this one are *not* identical, as the former was much longer and more slender than the other. I would, therefore, like to ask the following questions:—1. What is the age of queen sent, and the probable cause of death? 2. Why did bees eject her before (as I believe) I gave them the other queen? 3. Will the parent stock be ready for supering in about a week or so? (I replaced frames of brood taken out with full sheets of foundation, and the hive seems fairly full.)—"Nescedilwra," *Dublin, June* 8.

Reply.—1. Seeing that the swarm hived on June 7, apparently issued from No. 1, we cannot understand your cutting out queen-cells from No. 2 in order to prevent a "second swarm." No. 2 hive had, it seems, not swarmed at all. In any case, however, it would do no harm to remove queen-cells, as the queen was seen in the hive. 2. Yes, if weather remains favourable as at present. 3. Yes, since food is stated to be short, but there is no need to feed if honey is coming in from the fields.

[2422.] *Dealing with Swarms.*—I have two stocks of bees which were sent to me in April. Each was on ten frames and had a young queen. I supered both hives the last week in May, and in one hive the bees were soon up in the sections, whilst in the other they made no attempt to go up, although that hive seemed, if anything, the stronger of the two. On June 4, before 9.30 a.m., I was told my bees had swarmed and found a good swarm on a tree in the garden. Hive No. 1, where the bees had been in sections, had then no bees in super, but seemed full below. Hive No. 2 was very empty; no bees on the last two frames and empty of honey in what had been full frames. I saw the queen in this hive, but could not see her in hive No. 1, as the bees got very excited, and I closed it.

I hived the swarm in the evening on four frames of foundation and one of comb, saw the queen go in, and gave a bottle of syrup. To-day I examined hive No. 2 again and cut out two sealed queen-cells, in the hope of prevent-

ing a second swarm. 1. Have I done right in doing so? 2. When the five frames with the swarm are all covered with bees, can I super? I want surplus honey rather than increase of bees; or must there be more frames before it is wise to put on sections? 3. Is it likely that the swarm came from hive 1, although the ten frames were fairly full, but the super empty? In this case hive No. 2 must have swarmed unknown to me some days before. 4. I am feeding hive No. 2 for a few days, as I want them to be strong enough to work in supers during the honey season. Is this right?—A. T. THOMPSON, *Strood, Kent, June* 6.

REPLY.—1. Notwithstanding your opinion, we incline to the view that the queen cast out of the parent hive is the one put in, seeing that the "clump" of bees with queen in midst showed a case of "balling" an alien queen; besides, a queen when dead looks much smaller than when alive. The queen is an adult and not old; this is all any one can say as to "age." 2. If our view is right the bees acted as they naturally would with an alien queen given them as stated. 3. If the parent stock has yielded a swarm, besides being deprived of "three combs of brood and honey," we should hardly expect it to be fit for supering for several weeks to come, if at all this season.

[2423.] *Bees Transferring Themselves.*—1. Will you kindly advise further in reference to my bees transferring themselves from makeshift hive to new hive with standard frames. I have a new frame-hive, and on May 23 I placed the "makeshift" above the frames of the new hive, first covering the top-bars with canvas, after cutting a hole rather smaller than old hive. The bees have not swarmed yet, and seem to be now working well and very strong. Prior to being arranged for transferring themselves they swarmed seven times in nine days, but returned to the parent hive each time. 2. What is the best way of getting queen in brood-chamber, and at the same time, as far as possible, securing a harvest of honey? 3. If a rack of sections were placed below brood-chamber at any future time, would the bees work in them as in shallow bars?—F. ALLEN, *Emsworth, Hants.*

REPLY.—1. You cannot do better than allow the bees to continue "doing well" as they now are. 2. The plan you have already followed cannot be improved upon, seeing that the "makeshift" hive, if left on, becomes a ready-combed surplus-chamber, and may be removed—when full of honey—for extracting. 3. It would be far preferable to place the section-rack above the makeshift hive as a surplus chamber.

[2424.] *Hiving Swarms.*—On Saturday evening, June 2, I got a swarm of bees that had been arranged for. It was 9.30 when they arrived, and I was afraid that if the bees were thrown on the ground in front of the hive—as is advised—they would not get in at all owing to darkness, so we dropped them in through the top. 1. Was this right? Next morning I removed two frames, leaving six in the hive. The swarm weighed 3¾ lb. They had swarmed at 4 p.m. on the same day as received. I should feel obliged if you will tell me (2) when I should give more frames, and whether they should be placed in front or at back or in the middle of the frames already in? 3. I enclose a few dead bees I picked up. Please tell me what kind of bee they are. 4. On Sunday, June 3, I noticed some bees go into the hive, looking like dusty millers, or as if they had been rolling in flour. What was this? 5. At present the bees are carrying a whitish substance. Is this propolis or pollen?—W. J. M., *Newcastle, co. Down, June* 6.

REPLY.—1. Under the circumstances, yes; but throwing the bees out in front is preferable. 2. If weather keeps fine give a couple more frames (one on each side of those already in) after the bees have been hived ten or twelve days. 3. The bees bear slight traces of Carniolan markings. 4. The pollen of many plants gives the bees this appearance when working on the blossoms; marshmallow, for instance, or Canadian balsam produces it. 5. Pollen.

[2425.] *Brood Cast out of Hive.*—1. I should feel obliged if you could give me the reason for the bees in one of my hives casting out grubs like enclosed on the ground outside. The hive has not swarmed, but is supered with sections, all of which are quite full of bees at work. It may be well to mention that about five weeks back some young bees were brought out and killed, but these were fully-developed ones. I have also a skep which swarmed on May 26, and the swarm is doing well. I should like to transfer the present stock into a frame-hive. 2. When would be the best time to do it?—A. MARDELL, *Enfield.*

REPLY.—1. The larvæ cast out is drone-brood. It may arise from several causes, but need cause no alarm. 2. As we deprecate transferring old combs from skeps to frame-hives, we should defer transferring till next spring, and then allow the bees to transfer themselves to the frame-hive by working down into it, as so often advised in our pages.

[2426.] *A Beginner's Queries Regarding Swarms.*—As a regular reader I would be glad to have a reply to the following in B.B.J.:—1. I understand that the old queen issues with a first or top swarm; do the young bees only come out with her, or do old and young emigrate together? 2. I enclose a queen taken from a cast that came off a skep on Sunday last. I captured her and returned the swarm, as I have a super on the skep now. Was it right to catch and remove the queen? I thought if she was not removed the swarm would probably come out again in a day or

two. Is this so? 3. The queen has shrunk very much since dead, but was very small when alive. Is she of the ordinary native-bred bee? 4. Do you recommend raising a stock from a second swarm or "cast"? and is the queen already fertilised that comes out with a cast? 5. I have a swarm hived fourteen days ago on eight standard frames, five of which are apparently more than half filled and capped with honey. Would it be advisable to put a super on in two or three weeks' time?—YACKLEY PLACE, *Oxon.*

REPLY.—1. Bees of all ages that are already field-workers accompany the old queen with a top swarm. 2. Unless all queen-cells were removed before returning the swarm there would be a probability of the swarm issuing again, but not for certain. 3. Queen sent is an ordinary or native bee. 4. A second swarm, carefully attended to, and whose queen gets safely mated, very often makes the best of colonies for the following season. 5. If weather keeps good, a super may be given in a week or ten days from time this appears in print.

Bee Shows to Come.

June 18 to 22, at York.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. Edwin H. Young, Secretary, 12, Hanover-square, W.

July 12 and 13, at Spalding.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B. K. A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 12.**

July 18, 19, and 20, at Doncaster.—Bee and Honey Show in connection with the Yorks Agricultural Society's Show. Schedules from John Maughan, Secretary, York. **Entries close June 9.**

July 23.—Caergwrle Castle Flower Show. Open class for six 1-lb. jars of extracted honey. Schedules from H. S. Davies, Abermorddu, Wrexham.

July 24 and 25, at Stafford.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show. Open classes for Sections, Extracted Honey, and Bee Appliances. Schedules from Ellis E. Crisp, Sec., S.B.K.A., 8, Jesson-street, Coventry. **Entries close June 30.**

July 26, at Loughton, Essex.—Honey show in connection with the Loughton Horticultural Society's Annual Exhibition. Five classes for honey and one for wax, open to the county of Essex. Entry fee 6d. Schedules from G. F. O'Fflahertie, Moughyr Cottage, Loughton. **Entries close July 20.**

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from H. Tolson, Park House, St. Thomas, Exeter. **Entries close July 28.**

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations and lectures in the Bee-tent of the Worcester C.C. by the Rev. E Davenport.

August 6 (Bank Holiday), **at Melton Constable Park.**—North Norfolk B.K.A. Annual Honey Show in connection with the Horticultural Exhibition. Schedules from Hon. Sec., C. J. Cooke, Edgefield, Melton Constable. **Entries close July 28.**

August 6 and 7, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester.

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** (See advertisement on page vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

AMATEUR (Penryn). — *Suspected Comb.* — There is no sign of dysentery about sample of comb. The "jelly-like" substance in one or two cells need cause no alarm. For the rest, the comb contains nothing whatever but a little honey.

W. X. Y. (Glo'ster).—There is foul brood of bad type in comb. You therefore did well to "destroy the lot," in view of sixteen healthy stocks in your apiary.

E. F. J. (Llangollen).—Sample marked No. 1 contains foul brood of old standing. In the other piece of comb there is nothing worse than mouldy pollen and some food.

E. J. (Daxford).—*Suspected Foul Brood.*—Comb is affected with foul brood, but not in virulent form.

M. A. N. (Leicester).—There is foul brood in comb sent, and you acted wisely in avoiding risk to the ten stocks now doing so well by destroying the diseased colony and shutting up the hive.

J. W. (Wooler).—There is no disease in comb received.

X. Y. Z. (Newark-on-Trent).—Foul brood is breaking out in comb sent.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SOUTH of SCOTLAND BEE-KEEPERS' ASSOCIATION.—GRAND PRIZE DRAWING.—Winning numbers: 4,651, 6,331, 5,624, 1,307, 5,184, 161, 6,010, 6,753, 6,541, 533, 6,903, 3,687, 1,346, 2,322, 6,020, 7,849, 690, 1,407, 4,368, 294, 1,910. JAMES KERR, Hon. Secretary, Milldamhead, Dumfries. 961

PURE Italian SWARMS. Guaranteed healthy; packing free. W. A. TAYLOR, Poplars, nr. Luton.

NATURAL SWARMS, 10s. 6d. each; packing, 1s. LINSTEAD, Garboldisham, Thetford, Norfolk. 953

WANTED, several good CASTS, about 5s. each. A. BARKER, Greenhill, Harrow. 952

FOR SALE, two 28-lb. tins good HONEY. What offers? GRAY, Burgh-le-Marsh, Lincs. 954

SURPLUS STOCK.—Two LOTS BEES on five frames (Queen and Brood), 12s. 6d. each. MORETON, Leigh, Worcester. 951

SECTIONS, first quality, Wiltshire Downs, 9s. doz. Orders executed in rotation. Miss WENTWORTH, Avebury, Marlborough. 949

YOUNG MAN (18) seeks SITUATION. Understands plain gardening and bee-keeping. EDWIN BULLOCK, Abbey House, Brockweir, Chepstow. 957

COMPULSORY giving up bee-keeping, cheap TO CLEAR, Hives, Bees, Appliances. GAMBRILL, Tailor, Bagshot-road, Ascot. 946

WANTED, 200 worked-out 1-lb SECTIONS. State lowest price. J. WHITE, Hepscott, nr. Morpeth. 947

FEW spare strong STOCKS FOR SALE. Swarms booked forward. Schoolmaster, Littleport, Ely. 955

FERTILE ENGLISH QUEENS, 5s. 6d. each, post free in travelling cage. JEMEISON & BAKER, Bee Specialists, Dringhouses, York. 962

PROLIFIC YOUNG QUEENS, healthy, 3s. 6d. in introducing cage, free by return. CARBINES, Venn Cardinham, Cornwall. 959

SPLENDID FIRST SWARMS, with '99 Queen, 12s. 6d. Second ditto, with Queen, 8s. 6d. 2 Nuclei, 12s. 6d. Queens, 4s. 6d. Guaranteed healthy. WOODS, Normandy, Guildford. 956

BEST quality 1900 laying QUEENS, 5s. each; two 9s. Virgin Queens, 2s. 6d. each. 3-frame Nuclei, with young Queen, 12s. 6d. WM. LOVEDAY, Hatfield Heath. Harlow, Essex.

BEES WANTED in Exchange for a large KNITTING MACHINE; knits two stockings, &c., at once. Harrison's list price £39. What offers? WILLIAM DOWN, Catchgate, Annfield Plain, Durham. 960

GUARANTEED healthy, natural SWARMS of my selected ENGLISH BEES, 10s. each; package free. Six-Framed Stocks, 15s. each. WITHYCOMBE, Expert, B.B.K.A., Bridgwater. 958

NATURAL early June swarms, 3 lb., 10s.; 4 lb., 12s. 6d.; 5 lb., 15s. Guaranteed healthy and safe delivery. Packages to be returned. C. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. 948

A FEW SWARMS FOR SALE, 10s. each, box to be returned. Two 4-frame Nuclei, pure Ligurian Queens, 1899, 12s., package included. Cash or deposit. ROBERT NESS, Oldshead Grange, Ampleforth, York. 950

NATURAL SWARMS FOR SALE, 10s. each. Apply, H. HOLLEWORTH, Manor Farm, Wysale, Notts. 944

NATURAL healthy SWARMS, packed in skeps, free on rail 10s.—JOHN WOODWARD, Fladbury, Pershore. 941

NATURAL, healthy SWARMS or STOCKS. Package free. FISON'S APIARY, Horningsea Isle, Cambridge. 934

SWARMS FOR SALE, healthy and strong, 10s. 6d. each. Boxes to be returned. E. LONG, Fulbourne, Cambs. 937

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. HORSLEY, Merridale House, Top of Castle Drive, Isle of Man. 932

SWARMS FOR SALE, at 10s. 6d. each. Empties to be returned. Address, F. BARKS, Rempstone, near Loughborough. 913

Prepaid Advertisements (*Continued*).

SWARMS of superior BEES, 10s. 6d., 12s. 6d., and 15s., packed free. JOHN WALTON, Honey Cott, Weston, Leamington. 907

SWARMS, packed in skeps, and rail carriage free, 12s. Cash with order. Mrs. KIME, Mareham-le-Fen, Boston. 921

FINEST Prolific Queens, Stocks, Nuclei, and Swarms. Queen-rearing a speciality for 13 years. List free. Rev. C. BREREETON, Pulborough, Sussex.

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. SIMMINS, Heathfield, Sussex.

FIRST-CLASS WOIBLET EMBEDDER, ¼ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 828

PROLIFIC QUEENS, 5s. now. Orders requested for stocks, swarms, nuclei, and home-bred queens—Italian, Carniolan, and Black. E. WOODHAM, Clavering, Newport, Essex. 933

24TH YEAR.—SWARMS, 10s. 6d., 12s. 6d., 15s., Cases free. Three wire-framed Nuclei, Queen, Bees, and brood, 12s. 6d. Cases returned. ALSFORD, Expert, Blandford. 930

TANNED GARDEN NETTING.—25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Only best quality supplied. L. WREN & SON, 139, High-street, Lowestoft. 818

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

THE most satisfactory departure in the South for imported Hybrid and Virgin Queens. Swarms a speciality. My hives guaranteed waterproof in winter. List free. SPEARMAN, Colesbourne, Andoversford. 934

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BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. EDWARD REYNOLDS, Glove Manufacturer, Andover.

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FOR SALE, BEES, HONEY, HIVES, and APPLIANCES,
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GEORGE ROSE,

OF

Liverpool, Preston, &c.,

wishes to intimate to his friends and patrons that he is getting off at this very busy time all orders the same day as received. His resources being taxed to the utmost he is unable to show an exhibit of his well-known prime quality goods at the "Royal" Show at York this year. He regrets that the "Royal" comes at such an inconvenient season, but prefers to miss the advertisement and prize money rather than break faith with his customers. Goods of the same high quality that has brought him so many awards at the great shows of the past ten years. New **Root-Weed Foundation, Sections, Extractors,** and every Appliance needed at right prices for prompt cash and dispatch. ***GEORGE ROSE.***

Editorial, Notices, &c.

ROYAL AGRICULTURAL SOCIETY.

YORK MEETING, 1900.

The sixty-first meeting of the Royal Agricultural Society of England opened on Saturday last, the 16th instant, under the most favourable weather conditions it is possible to imagine. The ground selected for the great show was the well-known "Knavesmire," and a better or more suitable spot than the historic racecourse could hardly be found anywhere. The late rains had made the surrounding verdure look delightfully fresh and green, while the opening day was warm and bright from morning till night. Saturday being "Implement day"—when only the implement yard is open to the public—not many people were present, and as the precedent established at Maidstone last year was again followed by the show authorities for judging the bee-exhibits, those entrusted with the management of the bee department, along with the exhibitors and judges, had to betake themselves to the north on Friday, in order to be ready for work before 9 a.m. on the 16th. The new arrangement, though entailing the loss of more time to those so occupied, possesses distinct advantages, in so far as it allows of less interruption and disturbance to the judges while engaged in their work. It also ensures that when the show opens to the general public on Monday morning all the awards are made and the prize-cards in position on the various exhibits while the show is in spic and span order for visitors.

The judging occupied the whole of Saturday, and a very keen competition it was—especially in the appliance classes—with so many goods of excellent quality staged. In a word, it once more proved that the "Royal" is *the show* of the year, and that manufacturers rightly regard a "win" there at its proper value.

We shall reserve a fuller notice of the various classes till next week. Meantime, it is gratifying to say that judging by the beautiful weather prevailing on the opening day proper (Monday, the 18th), the week promises to be an eventful one, even for the "Royal," so far as attendance is concerned. The town is full of visitors, and with the prestige attaching to a two days' visit of the Prince of Wales to the show we shall expect to see a very large attendance if the weather continues favourable.

We were pleased to see that although the total number of entries are not quite so numerous as last year, the withdrawals, consequent on honey intended for competition being not ready for staging, were exceedingly few, and the whole display in the honey section was very creditable indeed.

We hope next week to give a more detailed description of the exhibits in the various classes, and close by appending the full list of awards as follows:—

AWARDS.

Class 366. *Collection of Hives and Appliances* (7 entries).—1st, W. P. Meadows, Syston, Leicester; 2nd, Jas. Lee & Son, Holborn-place, W.C.; 3rd, Jemieson & Baker, Dringhouses, York; v.h.c., Wm. Dixon, Beckett-street, Leeds; h.c., R. H. Coltman, Station-street, Burton-on-Trent; c, W. Shepherd, Oxton, Tadcaster.

Class 367. *Outfit for a Beginner in Bee-keeping, price not to exceed* £1 10s. (9 entries).—1st, Jas. Lee & Son; 2nd, W. P. Meadows; 3rd, R. H. Coltman; h.c., Jemieson & Baker.

Class 368. *Observatory Hive, with Queen and Bees* (4 entries).—1st, Jas. Lee & Son; 2nd, Wm. Dixon.

Class 369. *Complete Frame-Hive* (11 entries).—1st, Jas. Lee & Son; 2nd and 3rd, W. P. Meadows; v.h.c., Wm. Dixon; h.c., Jemieson & Baker.

Class 370. *Complete Inexpensive Frame-Hive for Cottager's Use* (10 entries).—1st and 2nd, W. P. Meadows; 3rd, Jas. Lee & Son; h.c., Thos. Lanaway & Sons.

Class 371. *Honey Extractor* (5 entries).—1st and 2nd, W. P. Meadows.

Class 372. *Useful Appliance connected with Bee-keeping, introduced since* 1898 (6 entries).—1st, Rev. W. Head, Brilley, Herefordshire (wax-mould); 2nd, Jas. Lee & Son (new section-case).

Class 373. *Twelve* 1-*lb. Sections* (10 entries).—1st, W. Woodley, Beedon, Newbury; 2nd prize withheld; 3rd, R. Brown, Flora Apiary, Somersham, Hunts.

Class 374. *Twelve* 1-*lb. Sections of* 1899 *or any previous year* (3 entries).—1st, W. Woodley; 2nd, A. W. Weatherhogg, Willoughton, *viâ* Lincoln.

Class 375. *Twelve* 1-*lb. Sections of Heather Honey, any year* (9 entries).—1st, Thos. Walker, Esthwaite, Hawkshead; 2nd, Wm. Dixon; 3rd, H. Waddington, Borobridge, Yorks.; reserve, Robt. Huggup, Glanton, R.S.O., Northumberland.

Class 376. *Three Shallow Frames of* 1900 *Honey for Extracting* (6 entries).—1st, 2nd, and 3rd, Geo. Wells, Eccles, Aylesford, Kent.

Class 377. *Twelve* 1-*lb. Jars Extracted Honey, light coloured* (8 entries).—1st, F. Chapman, Wells, Somerset; 2nd, W. Woodley; 3rd, H. M. Turner, Oxford.

Class 378. *Twelve* 1-*lb. Jars Extracted Honey, other than heather, medium coloured* (7 entries).—1st, E. C. R. White, Holbury Mills, Romsey; 2nd and 3rd prizes withheld.

Class 379. *Twelve* 1-*lb. Jars Extracted Honey, other than heather, dark coloured* (4 entries).—1st, E. C. R. White; 2nd, G. W. Kirby, Longwells Green, Bristol.

Class 380. *Twelve* 1-*lb. Jars Extracted Honey, in* 1899 *or any previous year* (11 entries).—1st, W. Patchett, Thoresway; 2nd,

W. P. Meadows; 3rd, E. C. R. White, Holbury Mills, near Romsey.

Class 381. *Twelve 1-lb. Jars Extracted Heather Honey* (12 entries).—1st, T. H. Jackson, Kirbymoorside, Yorks; 2nd, W. Sproston, Great Haywood, Staffs; 3rd, Wm. Drinkall, Clitheroe.

Class 382. *Twelve 1-lb. Jars Granulated Honey, any year* (13 entries).—1st, W. P. Meadows; 2nd, Jno. Berry, Llanrwst, North Wales; 3rd, Rev. Sidney Smith, Wheldrake Rectory, York; reserve, R. Brown.

Class 383. *Display of Honey, in any form* (5 entries).—1st, Wm. Dixon; 2nd, Jas. Lee & Son.

Class 384. *Beeswax, not under 3 lb.* (13 entries).—1st, Jno. Berry; 2nd, Rev. Sidney Smith; 3rd, R. Brown; reserve, G. W. Kirby.

Class 385. *Beeswax, not less than 3 lb., in cakes suitable for the retail trade.*—1st and 2nd, Jno. Berry; 3rd, R. Brown; v.h.c., Rev. Sidney Smith.

Class 386. *Honey Vinegar.*—1st, P. Scattergood, Stapleford, Notts; 2nd, G. W. Kirby.

Class 387. *Mead.*—No award.

Class 388. *Interesting Echibit of a Practical Nature.*—1st, P. Scattergood.

Class 389. *Interesting Exhibit of a Scientific Nature.*—1st, Percy Sharp, Newark-on-Trent. Lantern slides.

NOTTS BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW.

The annual show was held in connection with the Nottingham Agricultural Society at Colwick on June 6 and 7.

The exhibits were ably judged by Mr. J. H. Howard, of Holme, Peterboro', assisted by Mr. S. W. Marriott, Nottingham. They made the following awards:—

Collection of Bee Appliances.—The judges awarded a prize, but as there was only one competitor did not feel justified in placing the exhibit 1st, 2nd, or 3rd.

Hive for General Purposes.—1st, G. H. Varty, Muskham; 2nd, E. C. Walton & Co., Muskham.

Honey Trophy.—1st, G. E. Puttergill, Beeston.

Six 1-lb. Jars Extracted Honey (light).—1st, A. G. Pugh, Beeston; 2nd, J. Herrod, Sutton-on-Trent; 3rd, J. T. Faulconbridge, Bulwell.

Six 1-lb. Jars Extracted Honey (dark).—1st, A. G. Pugh; 2nd, P. Scattergood, Stapleford; 3rd, G. E. Puttergill.

Six 1-lb. Sections.—1st, G. E. Puttergill; 2nd, J. Herrod.

Six 1-lb. Jars Granulated Honey.—1st, A. S Pugh; 2nd, J. Herrod; 3rd, G. Hayes, Beeston.

Shallow Frame of Honey.—1st, W. Swan, Eastwood; 2nd, H. Merryweather, Southwell.

Honey Vinegar.—1st, P. Scattergood; 2nd, G. Hayes.

Honey Cake.—1st, P. Scattergood; 2nd, G. Hayes.

Observatory Hive.—1st, P. Scattergood; 2nd, G. E. Puttergill; 3rd, G. Hayes.

Beeswax.—1st, G. E. Puttergill; 2nd, P. Scattergood.—*Communicated.*

CONVERSATIONS WITH DOOLITTLE.

DRONE-COMB.

On my way home from the out-apiary last evening I met Mr. Charles Brown, a man who has kept bees in a small way for some years, and who is now about to establish an apiary by taking bees on shares, and making hives for another bee-keeper, trading the hives for bees, the apiary to be located a short mile and a half from me. Among other things we talked about was that of having too much drone-comb built by the bees; and as this drone-comb problem is one that confronts many a beginner, I will give something of our conversation, as nearly as I can remember it. Mr. B. does not feel like buying much comb-foundation, and wishes to get his hives filled with worker-combs without the use of it, so "fires" at me this question first:—

"What makes bees build so much drone-comb, any way?"

"All observing apiarists know that, as the day of swarming draws near, the queen ceases her prolificness, so as to be able to fly and go with the swarm, so that, when swarming occurs, said queen is scarcely larger than a virgin queen. Nature has so ordained things for two reasons, the first of which is that the queen may fly; for, if taken from the hive or colony when no such preparation has been made, she cannot fly at all, as she is so heavy with eggs."

"Yes, I know that to be a fact; for only to-day, in trying to catch a queen to clip her wing, I was so nervous that I got clumsy, and knocked the queen off the comb. I expected to see her fly away; but, instead, she, trying to fly, sank down to the ground. She made two or three more efforts to fly, but could not rise, so I held the comb of bees down and she ran on it, when I finally succeeded in getting her and clipping her wing. But what about the second reason?"

"The second reason is that the queen need not be damaged by an over-accumulation of eggs before there is time for the bees to construct combs in their new home for her to deposit eggs in. For these reasons we find that all good queens do not become fully prolific again until about a week has elapsed after any swarm is established in its new home."

"Well, what has all this to do with the building of drone-comb?"

"During this week comb has been built rapidly, especially if honey is coming in plentifully; while, for the reasons given, the queen has not been able to keep up with the workers in filling the comb built with eggs,

the result of which is that the bees commence to build store-comb, which is of the drone size of cell."

"But when filled with honey there can be no drones reared in it?"

"Correct; but the trouble comes the next spring when the combs are emptied of honey. Only a year or two ago I saw hives in a neighbouring apiary nearly half-filled with drone-comb, where good laying queens went out and were hived with the swarms."

"Why do you bring in that 'good laying' part?"

"Because some seem to think that no drone-comb is built under any circumstances unless the queen is old or beginning to fail. By inquiry I found that the swarms were hived a full week before the surplus arrangement was put on, this making it necessary for the bees to do all their work in the hive during the time before the queen could get back to her full prolificness again. In these reasons I have given what causes the bees to build drone-comb for the majority of bee-keepers."

"But how is such a state of affairs to be avoided?"

"The way I manage is to give new swarms which are to build comb, a brood-chamber of only about half the size of the one from which the swarm came, this smaller size being made by contracting it with dummies, while a part of the surplus for section honey is placed over the frames at the time of hiving. Some of the sections in the surplus arrangement should be partly filled with comb left over from the season previous, so as to start work in the sections at the same time the bees start below. This causes the bees to store honey above while they build comb more slowly below, building only as fast as the prolificness of the queen demands it."

"Do you keep the swarm all of the season in this contracted brood-nest?"

"No. As the queen's ability for laying increases, more frames are added, so that at the end of the season I have the hive filled, or very nearly so, with nice worker-comb and secure lots of section honey. By this plan I secure three important items—much section honey, very little drone-comb, and a hive filled with nice straight worker-comb, the latter costing less, in my estimation, than it would to buy the foundation, wire the frames, and fit the foundation into them."

"Do you think I could succeed by that plan?"

"I know no reason why you can not, and I hope you will try it the coming season, on a few swarms at least; for if it works as well with you as it does with me, it will be quite a saving to you, both in vexation and in not rearing a host of useless drones to eat up the early honey which the industrious little workers gather."

"Do you treat after-swarms having virgin queens in the same way?"

"No, this does not apply to such swarms, for there seems to be no disposition with them to build drone-comb, unless the swarm should be an exceedingly large one. All swarms or colonies having a young queen just commencing to lay rarely ever build any drone-comb the same season; nor will the young queen in the parent colony lay any eggs in the drone-comb in the hive already built; because, when an old colony has a young laying queen after a swarm has issued, instinct teaches them that they may expect this queen to meet all of the requirements of a mother-bee for the rest of the season, and drones are necessary only when a change of mothers is contemplated."

"Why will not such colonies build nice worker-comb then?"

"They will, and I often take advantage of this fact, and manage to get one or two nice perfect worker-combs built for future use while the bees of these colonies are at work vigorously in the sections, by taking one or two full combs out of the centre of the brood-nest of colonies having such queens and inserting empty frames in their places."

"But doesn't it detract from the honey crop?"

"These frames are filled, apparently, without the cost of any section honey, while it seems to give great energy to the colony so building comb. The combs thus secured, and any which I may secure from any nuclei or weak colonies which are too weak to work in sections advantageously, are carefully kept for the next season, when they can be used to fill out the hives of any swarms whose queens may not be of sufficient prolificness to cause the bees to fill out completely the whole number of frames given with full combs having the worker size of cells. Plenty of frames filled with worker-combs are greatly prized by an apiarist. But I must be going, as it is getting dark."—*Gleanings (American).*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEE NOTES FROM ESSEX.

[4012.] The particulars of a swarm of bees on the march, sent to last week's BEE JOURNAL by Dr. Sharp, No. 4005, page 231, are very interesting, and well worth recording as another proof of the attachment of bees to their queen and mother. I was struck by the devotion of the bees forming a nucleus a short time ago. The nucleus had been formed the previous evening, and the bees shut in the hive for a day or two, but early on the following

day the bees forced a passage at a corner under the covering, and from this one bee space at the top of the hive at once started working freely, carrying in both honey and pollen. These bees, instead of rushing off to their late home, seemed to have realised their duty to the helpless young and to the unhatched head of the future colony.

As another proof that bees do not work by any invariable rule, I may mention that two swarms of mine which came off last week did not leave the hive till the young queens were due to hatch; in fact, in both hives the young queens began to hatch a few hours after the swarm left. These were both first swarms; the weather had been perfect for swarming for several days.

I was glad to see in last week's B.J. that Mr. J. Perry declines to reply to a correspondent who cannot sign his name. A communication on any subject loses weight if the writer does not gives his name, and it is likely to be taken as a shot from behind the hedge when there may be no intention of doing such a thing. Certainly the letter signed "Dubious" (No. 4004) was deficient in one or two particulars that would be necessary in arriving at a safe conclusion.

Greasy Sections.—I think these are best described as flat-sealed sections. I recently tried to show the difference between flat sealing and hollow sealing to an expert in another craft, but I am afraid that I failed to quite clearly define it. For a few years I weeded out all colonies which had finished their combs with a flat sealing, from my apiary, but now I again allow two such colonies a place to meet the wishes of a customer. Flat-sealed honey is, I think, best for immediate use, but hollow-sealed honey keeps better and is therefore to be preferred. The air space under the hollow sealing of honey seems to be very helpful in preserving sections in good condition.—W. Loveday, *Hatfield Heath, Harlow, Essex, June 8.*

A BEGINNER'S DIFFICULTIES.

WANTED—A BEE-KEEPERS' ASSOCIATION.

[4013] I began bee-keeping in the fall of last year by purchasing a frame-hive containing a stock of bees which seemed to be in a thriving condition. Some friends took it along with their own to the heather, where it did splendidly, giving me almost 40 lb. of heather honey. The bees seemed to have come through the winter all right, and I fed them a little in the spring. But for some time I have not been at all satisfied with their appearance at work, and thinking they were queenless I thoroughly examined them, and found the queen, but there was very little brood in the hive, the combs being all very dark in colour (I send you a piece for your opinion on same). Acting on the advice of a neighbour, I have discarded all the old frames, and have given the bees six new ones with full sheets of foundation, and am now feeding them with good syrup in a common bottle-feeder. Your advice on the above will be highly appreciated. I may say that I have Cowan's "Guide Book" and take the Bee Journal every week. Although very helpful, a practical demonstration would be much more so, and I think there is great need for a Bee-keepers' Association in this part of Scotland, viz, Kirriemuir (Thrums), including the whole county of Forfarshire. It only requires a few active bee-keepers to move in the matter and I am sure their efforts would meet with success.—J. B, Thrums.

[We regret to say comb is affected with foul brood. You cannot do better than follow the advice given in "Guide Book" and in B.J. of May 24, page 202.—Eds.]

EXPERTS AND FOUL BROOD.

[4014] My letter, No. 4004, page 226, seems to have annoyed Mr. Perry on account of my name not appearing at the foot. I only signed myself, as I felt I might have added *very*, "Dubious." Further, let me say my object in writing was not so much to blame the experts—who probably know their business better than I do—but to get an authoritative opinion as to whether I was justified in having my bees left alone, as I have been blamed locally for my action. I ask Mr. Perry to remember that I mentioned no names, and, also, I would like to state Mr. Perry did not visit my bees. I do not wish to enter into a discussion on the subject, as I am satisfied with having obtained your esteemed opinion, after hearing the true facts of the case, for which please accept my best thanks. —Frank Knight, *Sands Cottage, Warnham, Horsham, Sussex.*

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The illustration on next page shows a portion of another Devonshire apiary, its owner, Mr. Delbridge, adding one more to the many tradesmen who "tack on" bee-keeping to their ordinary occupation. The "notes" sent in response to our request need no addition beyond introducing our friend and his good helpmate to our readers. He writes:—

"The first skep of bees of which I became possessor, about thirty-six years ago, was given to me by my father, a skeppist of the old school, who would not sell a stocked skep or a swarm of bees at any price, but must always barter them for some other commodity. I well remember about the time he gave me my start, his bartering away some skeps for so many pounds of butter. The bees went, but the butter never turned up, so he got the worst of the bargain. My father still lives,

and has been the owner of two frame-hives for some ten or twelve years past, but not without much persuasion, however, could he be induced to give up his skep for such 'new-fangled things,' as he termed frame-hives. Being now in his eighty-fourth year, you may imagine he is not so active as he used to be, and cannot manage the bees himself, although he regularly goes to his daily labour as gardener along with two of my brothers who work for the same gentleman. Both are bee-keepers, and one of them looks after my father's bees. I was unfortunate with my first skep, for although I kept it for three years it never swarmed, and in the autumn of the third year the bees disappeared entirely. When examined there was 16 lb. of honey in the combs, but not a bee to be seen. I did not understand this at the time, but have now no doubt it became queenless. This put an end to my bee-keeping for several years, as I went to service on a farm for two years, and was afterwards apprenticed to the boot and shoe making trade. I subsequently worked as journeyman for about three years before starting in business on my own account, and when at last I entered into a 'life-partnership' with 'somebody's daughter,' I was not long content without a swarm of bees and a frame-hive, made by a local bee-keeper. It is thus about twenty-one years since I began bee-keeping in earnest. Before I got settled in a home of my own I often longed for some bees on seeing a hive or two in other people's gardens; thus the adage, 'All things come to him who waits,' was verified in my case.

"Since then I have kept on increasing year by year, and to-day I own twenty-three colonies, two being swarms of the present year. All my stocks are doing splendidly at time of writing, two of them working well in sections, and the season promises well for honey in this part. I delight to be among the bees, and, if our seasons could always be depended on for a good yield, I should throw up my boot trade and go in for bee-keeping as my only occupation. As it is, however, I find the two go very well together, as I work at home and close by the bees. I always wear a veil, but no gloves, when employed among the hives, and take no notice of a sting or two. I get a good many sometimes, as I look after some sixty or seventy stocks of bees for other people, whom I have been partly the means of starting in the craft. I supply them with hives and appliances, and look after their bees, charging so much for my time in so doing. I have a large garden, and sell vegetable and flower seeds, besides garden produce, all of which occupations keep me busy; and, being also clerk to the Parish Council, I cannot, therefore, like some of your correspondents, make my own hives, having no time for such work.

MR. A. DELBRIDGE'S APIARY, PARRACOMBE, NORTH DEVON.

"I like the 'W.B.C.' hive very much, as it is so easy to manage and keeps dry; it is also well suited for wintering bees safely. I have three 'Wells' hives, but they are not a success with me; indeed, the most I ever got from a 'Wells' hive—with both compartments in good working order—was 111 lb. of honey, while a single stock standing close by the same year gave me 164 lb. This has happened not once or twice, but year by year it is the same. I get more from strong single-queened stocks than from the 'Wells,' and somehow the bees of both sides in the latter join together every autumn, leaving one compartment empty. I have had one of the 'Wells' hives altered, and, instead of having both the entrances in front, I have placed one in the end, and I am hoping it will be an improvement. I work for both sections and extracted honey, having a good demand for both; but, while less fortunate than 'White Clover,' who writes on page 196, I don't grumble at the price my produce realises, believing that, if we bee-keepers wish to see honey regarded as a daily food instead of a luxury, it is folly to ask a price which the working classes cannot pay. I have no difficulty in disposing of my crop, as a large portion of it goes to London every season, and, since I began advertising in the BEE JOURNAL some few years ago, many repeat orders have reached me. I also keep a little display of sections and honey in jars in my window through the summer months for the benefit of the many visitors passing through our village, and effect a good many sales in this way. A main point is to see that every section is scrupulously clean and free from all propolis or finger marks, and that the glass jars are made attractive by neat and pretty labels. I consider neatness and cleanness to be half the secret of securing customers, as people in these days won't put up with anything that looks untidy or unpalatable on the table. I also exhibit at our local show, and take with me about six to eight dozen lb. in sections and jars, with the result that I never yet failed to obtain a prize or to dispose of all honey taken to the show.

"I work on the storifying principle, often having three and four racks of sections on at a time. I get a great deal more honey stored in that way rather than by continually removing sections as filled. The same with surplus chambers for extracting. I find the super-clearer most helpful in taking off surplus, as it is done so quietly, without the least disturbance to the bees. Bearing in mind that the public highway runs alongside my garden hedge, I can fully appreciate this most useful appliance. I use queen-excluders for all my hives, and by wrapping up warmly do not have any trouble in getting bees up into sections or shallow frames. Only during the last two or three years have I used excluder under sections, but so many were spoiled by the queen getting into them that I decided to have no more of that nuisance, and it is worth far more than the cost of excluders when taking off supers to have them free from brood, and brace-combs which almost require a Samson to lift them off. I invariably use naphthaline in hives and naphthol beta in all syrup for bee-food.

"My wife (seen in the picture along with your humble servant) is a capital instance of a real 'bee-keeper's helpmate,' for she assists in everything connected with the bees, cleaning sections, jarring off, and collecting extracted honey, and whenever wanted to help in hiving swarms she is not a bit afraid of the work.

"In conclusion, I should like to give my testimony in answer to the oft-repeated query, 'Do bees pay'? I say, without hesitation, if properly and intelligently looked after, bees pay and pay well, but if left alone to take their chance (as is too often the case), bees don't pay, and no sensible man can reasonably expect them to do so. I would also say here how much I look out for the BRITISH BEE JOURNAL every week; it seems to me a part of my life, and if no other paper is read the B.B.J. gets full attention, and as it generally arrives about breakfast-time I often scan it through whilst eating my breakfast. It is by reading up the 'Queries and Replies' and the many experiences of other bee-keepers written therein that I have so well succeeded in my bee-keeping. I finish my 'notes' by wishing our editors and all brother bee-keepers a prosperous year."

QUEEN-INTRODUCTION BY CLOCKWORK.

"APPARATUS FOR INTRODUCING QUEEN-BEES INTO BEE-HIVES."

An application for a patent with the above title was filed in the Patent Office on February 24, 1900 (No. 3,651), by Ignaz Kirchweger, of Markt Aschbach, Lower Austria, watchmaker, and the specification was published on the 2nd inst.

The apparatus, in which the queen-bee to be introduced into a hive is temporarily confined or imprisoned, has for its object the liberation of the queen-bee after the apparatus has been in the hive for a period of from twenty to twenty-four hours, and this is effected by the provision of two cylindrical and concentric cages. The inner cage, into which the queen-bee is induced to enter before the apparatus is placed in the hive, has a very slow rotary motion communicated to it by clockwork mechanism, the said mechanism effecting a complete, or nearly complete, rotation of the inner cage in from twenty to twenty-four hours, when the inner cage is brought to a rest by a stop. Both the inner and outer cylindrical cases have spaces or ways which are open only when the space or way in one coincides with the space or way in the other. The spaces or ways are non-coincident when the apparatus

is wound up—that is, when the queen-bee is placed therein; but when the inner cage has performed its complete, or nearly complete, rotation and has come to rest, the spaces or ways in the two cages coincide. The queen-bee is then free to pass out of the apparatus into the hive.

The specification, which is accompanied by drawings of the apparatus, may be obtained from the Patent Office, London, price 8d.

Specification post-cards (Patents' Form C[1]), price 8d., can be obtained at any of the principal post-offices in the United Kingdom. —(*Communicated.*)

Echoes from the Hives.

Chichester, June 16.—The past week of very hot weather has at length given way to thunder-storms, and the change seems very appreciable, for the bees appeared to say, like every person you met, "Oh dear, isn't it hot?" Now it is much cooler and the steady rain setting in has caused a good many bees to desert supers and descend into the brood-chambers. If we can only get suitable weather now, those apiarists who are in the midst of plenty of white clover, will find their stocks will do well. Limes are showing well for bloom, and will probably be flowering before the clover has faded this season, which will be a very good mixture.

Should not your replies to Querists Nos. 2421 and 2422, respectively, be reversed, *vide* B.B.J., June 14, pages 237-238?—JOHN DANIELS. [Yes.—EDS.]

Queries and Replies.

[2427.] *Immature Bees Cast Out.*—Can you give me any advice, or explain the reason of what happened under the following circumstances? No. 9 hive in my apiary is a good one, and contains a strong colony of bees which came through the winter very well. On May 10, having examined the stock and seen that the bees were healthy and strong, I removed the division-board to the back and added two fresh frames fitted with foundation. This they soon built out and occupied. On May 25 an expert examined this hive along with my other stocks, and my friend was pleased to see how strong they were and how healthy. I then supered the hive in question by giving a rack of twenty-one sections fitted with small pieces of foundation. The bees are up in the sections and working in them a *little*, but still are "*hanging out*" round the hive entrance as if wanting to swarm. They are also *killing* and casting out a *lot of immature bees*, some being apparently nearly ready to hatch out, while others are almost white still. Every day or two I see some dozen or more of these poor immature bees dead on the ground in front of the hive. I cannot account for this at all. They have lots of room and are actually at work in super in the centre sections. I have to-day (June 14) put in another super of eight shallow frames under the section-crate with nearly whole sheets of foundation, to see if that will make any difference. When I put top super on first, I placed a sheet of queen-excluder zinc below it. I have never used this material before, and have never suffered much inconvenience in consequence, but was persuaded by a friend this spring to try it. Please help me, if you can. Your admirable journal is most interesting and instructive to beginners like myself, and very helpful.—HENRY K. LAW, *Dolton Rectory, N. Devon, June* 14.

REPLY.—1. The casting-out of immature brood in May may be caused either by scarcity of stores and no income from natural sources, or by want of care in wrapping warmly when putting on surplus chambers. You will be best able to judge yourself as to which of these two causes contribute to the mischief. 2. With regard to the bees "hanging out as if intending to swarm," it by no means follows that they will swarm because of the "hanging-out," provided there is room in the hive and a full width entrance, say, of 14 in. or 15 in. is allowed. Our correspondent needs only to bear in mind that the best preventive of swarming is giving timely room a little *in advance* of the bees' requirements, because if only they make up their minds to swarm it is very difficult to stop them. The casting-out of brood need not, however, cause any great alarm.

[2428.] *Preventing Swarming.*—I should be obliged if you would kindly inform me what is the best means of keeping bees in frame-hives from swarming? The books say "give them room." 1. How is this to be done, the brood-nest having the full number of frames? 2. Should the brood-chamber be raised on a "riser" above the floor-board some inches? I put on a rack of sections on each hive, but the bees went on swarming, and have not gone up into the sections yet, except in one hive.—J. A. JAMES, *Doddington Rectory, June* 13.

REPLY.—1. All reliable books recommend giving room and ventilation a little *in advance* of the requirements of the bees. If these precautions are deferred too long it becomes very difficult to check swarming. The principle involved is keeping the hive and supers cool in hot weather, and affording the bees room while shading them from the hot sun. There are many ways of effecting these objects, including the use of various non-swarming devices which have been described in our pages. 2. "Giving room" in the general sense means adding surplus-chambers above the brood-nest, and this can be carried out to any extent. One way of preventing swarming is to give room by placing a surplus-chamber below, and when the bees have started work-

ing in the latter removing it from below along with the bees and setting it above in the usual way. It, however, needs a hive specially constructed for carrying out this plan of preventing swarming.

[2429.] *Transferring Bees from Skeps to Frame-Hives.*—Having read with great interest your "To Correspondents" column, I venture to ask if you can tell me how to transfer two colonies in old straw skeps to a new frame-hive. 1. Can the bees of both skeps be united and be put together into a new hive? 2. Should I put the old combs with brood, &c., into the new frames, or let them work out foundation? 3. I also should want to move the hives from present stands (in a very bad position) to new quarters, where I have two other hives. Can this be done without serious loss of bees?—D. MAPPIN, *Epsom, June* 14

REPLY.—1. The bees could only be united by driving both lots into one skep and then shaking them up well together—just as if the bees were so many peas—then throwing them out in front of the frame-hive, and allowing them to run in together. This plan would, of course, mean the sacrifice of the hatching-brood in both skeps if the latter are not taken into account. 2. Transferring old combs from skeps to new frame-hives is not advisable. 3. The change of position would result in little or no loss if the bees are dealt with by driving and uniting, but otherwise the stocks at this season will have to be moved gradually 4 ft. or 5 ft. at a time once every two days. Apart from the above replies, however, we advise allowing the bees of each separate skep—if healthy and strong—to transfer themselves to a frame-hive by setting the skeps above top bars, as so often described in our pages, or as directed in the new edition of "Guide Book," page 140.

[2430.] *Bees Hanging Out.*—Can you tell me why my bees stand about on the alighting-board of one of my hives in such numbers that those working have great difficulty in getting in? The stock swarmed twelve days ago, and now they have two racks of sections on, one of which is almost full.—M. LONG, *Anerley.*

REPLY.—The stock having swarmed it is probable the bees are about to throw a "cast" or second swarm, and may even have done so, in which event it may cast again. Any way, the bees have either a virgin queen, or maybe only a queen-cell. Under these conditions bees are apt to stand about. The want of young brood alone would account for this. Place the unfinished supers on the swarm.

[2431.] *Bees Crowding Outside Skeps — Supering Swarms.*—I should be obliged if you could tell me what to do with my bees under the following circumstances. 1. I have a straw skep, the latter being placed inside an ordinary wooden box for protection from weather, &c., but open in front. For about a week past a large quantity of bees have been covering the skep at the entrance in front, and are also packed at the back and on top in the space between the skep and the box. At night some of the bees usually go in, but a lot remain outside all night. Are they going to swarm? 2. I have already had two swarms from a skep standing close to this one, and both of these swarms are doing very well. I therefore ask—Will the first and largest be ready to super this season? I have hived them on eight standard frames, all of which are now covered with bees in the strongest colony.—J. KIRKHAM, *Harley Hall, New Barnet, June* 15.

REPLY.—1. The symptoms point that way, yet it does not invariably follow that "hanging out" means swarming; but unless steps are taken to prevent swarming the probability is that the bees will do so. 2. You should examine the frames of the hive in which the top swarm is placed, and if the combs are built out and well occupied with bees, give either a rack of sections or box of shallow frames fitted with full sheets of foundation at once. The weather is now so favourable for honey-storing that swarms of the current year will store some surplus in any fairly good district.

[2432.] *Unfinished Sections.*—When racks contain a few unfinished sections, or even untouched foundation, after the greater part are quite finished, what is the better course to pursue—to leave the rack on until all the sections are finished; or to place the unfinished ones in another rack, on either the same or another hive?—CLUMBER SPANIEL, *Andover.*

REPLY.—This is a matter of choice. If the sections unfinished are few and nearly completed, we should leave them on. If the foundation is untouched, whilst sections in same rack are finished, we should suspect the quality of that foundation. It is best to permit each hive to finish its own sections.

[2433.] *Examining Hives — Suspected Comb.*—A friend asked me (who am only a beginner) to look at his bees, and on Monday I opened the hives. No. 1 was in as beautiful a condition as could be desired. It had been wintered on ten frames which were all full either with brood or honey, and the bees were clustering outside on the flight-board and round entrance. I cut out a queen-cell and put on super. No. 2 hive had no brood and I could see no trace of queen, but the comb seemed to me to be in a bad condition. I enclose a piece and shall be glad if you will say whether it is *healthy.* The bees were apparently dwindling fast. 1. If comb is healthy please say what I ought to do with the bees, as there is not a sufficient number to start a fresh stock with. No. 3 had been packed badly, for the quilts had been soaked with wet and were in a mouldy condition, but the bees had not apparently suffered. No. 4 had been blown over during a gale; the queen had perished; the bees which remained had made several attempts to build queen-cells, but had

subsequently all died off; and the wax-moth had made havoc with the combs, all of which I burned. 2. Please say if comb shows sign of foul brood, and if not, whether it is safe to unite the stock with, say, No. 3 lot. 3. If foul brood is present, ought I to take measures with the healthy hives; if so, what? —F. E. R., *Walthamstow.*

REPLY.—1. There is no sign of brood at all in comb sent, only hard, old pollen and honey (or syrup). 2. If the bees are few in number it is no use troubling to unite them to the other lot, as they will be old and almost useless. 3. This needs no reply, as there is no disease in comb.

Bee Shows to Come.

July 11, at Buckden Towers. Hunts B.K.A. Annual Show of Bees, Honey, &c. Open class for 1 bottle. C. N. White, Hon. Secretary, St. Neots.

July 12 and 13, at Spalding.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B. K. A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 12.**

July 18, 19, and 20, at Doncaster.—Bee and Honey Show in connection with the Yorks Agricultural Society's Show. Schedules from John Maughan, Secretary, York. **Entries close June 9.**

July 23.—Caergwrle Castle Flower Show. Open class for six 1-lb. jars of extracted honey. Schedules from H. S. Davies, Abermorddu, Wrexham.

July 24 and 25, at Stafford.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show. Open classes for Sections, Extracted Honey, and Bee Appliances. Schedules from Ellis E. Crisp, Sec., S.B.K.A., 8, Jesson-street, Coventry. **Entries close June 30.**

July 26, at Loughton, Essex.—Honey Show in connection with the Loughton Horticultural Society's Annual Exhibition. Five classes for honey and one for wax, open to the county of Essex. Entry fee 6d. Schedules from G. F. O'Fflahertie, Moughyr Cottage, Loughton. **Entries close July 20.**

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from H. Tolson, Park House, St. Thomas, Exeter. **Entries close July 28.**

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations and lectures in the Bee-tent of the Worcester C.C. by the Rev. E. Davenport.

August 6 (Bank Holiday), **at Melton Constable Park.**—North Norfolk B.K.A. Annual Honey Show in connection with the Horticultural Exhibition. Schedules from Hon. Sec., C. J. Cooke, Edgefield, Melton Constable. **Entries close July 28.**

August 6 and 7, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 29, at Congleton. Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester.

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee keepers.** (See advertisement on page vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers** (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

QUEEN BEE (Pewsey, Wilts).—*Sending Queen-Bees by Post.*—You may obtain a "travelling cage" for sending queens by post for a few coppers from any dealer in bee-appliances. In sending, about six bees must be put in along with the queen, and the smallest of the three compartments into which the cage is divided should be filled with soft candy (not honey).

A. HENRY (Wick, N.B.).—Beyond the brief reply by post already sent, we can only refer you to the article on the difficulties of dealing with foul brood by our senior editor, Mr. Cowan, on page 202 of B J. for May 24.

J. C. W. (Guildford).—*Returning Swarms.*—It is never safe to return swarms to parent-hive six or more days after they issue. In fact, such swarms must be dealt with as alien bees if returning is decided on. We should allow the swarm to remain in the hiving skep till the close of the season, and then drive the bees, destroy the old queen, and unite the driven bees to the parent colony in the autumn.

F. W. (Devon).—*Brood Thrown Out.*—The "brood" sent is a newly-hatched, healthy drone. It is probable that the stock has swarmed and the swarm has gone away without your having seen it; this would account for the bees "dwindling." The throwing-out of an "occasional" grub or larva is no indication of disease.

R. B. (Beckenham).—The bees have died from starvation. It is impossible to say how long they have been dead.

W. L. S. (Gloucester).—Comb sent is badly affected with foul brood.

A L. (Oswestry).—Comb is affected with foul brood.

H. B. (Matlock Bank).—Yes, through a printer's error the reply to 2421 was placed after 2422 and *vice versâ.*

Special Prepaid Advertisements

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

PAIR handsome young GOATS, 10s. Aged six weeks. WOODS, Normandy, Guildford.

1900 PURE CYPRIAN and ITALIAN QUEENS, just arriving, 7s. 6d. each. Safe arrival guaranteed. SPEARMAN, Colesbourne, Andoversford.

FERTILE young CARNIOLAN QUEENS, untested, 4s. 6d.; with nuclei, 12s. FRANK REED, Portslade, Sussex. 972

ON SALE, several strong STOCKS of BEES in bar-frame hives. Bees and hives in excellent condition. Cheap. L. BAILEY, 55, Park-road, Leek, Staffs. 969

FINEST new ENGLISH HONEY, 6½d. lb. Sample, two stamps. Cash or deposit. TWINN, Apiary House, Ridgwell, Halstead, Essex. 968

WANTED, SECTIONS, EXTRACTED HONEY, and SWARMS. LEENEY, Honey Merchant, Hove, Sussex. 967

SECOND-HAND HAND CAMERA in Exchange for 15 lb. of guaranteed pure Comb Honey or Extracted. GILL, 5, Friary Gate, Plymouth.

7-IN. CIRCULAR SAW, spindle special hardened, centre bearings, 7s. 6d. NORMAN, Apiary, Bridport. 963

NOW READY, healthy SWARMS of ENGLISH BEES, 4 to 7 lb. weight, at 2s. 6d. per lb. Boxes to be returned. W. HAWKES, Barley, near Royston, Herts. 975

SPLENDID FIRST SWARMS, with '99 Queen, 12s. 6d. Second ditto, with Queen, 8s. 6d. 2 Nuclei, 12s. 6d. Queens, 4s. 6d. Guaranteed healthy. WOODS, Normandy, Guildford. 956

AT THE SHOW.—Look out for the **"HONEY-SLICE"** SECTION WRAPPER, 2s. per 100, of all dealers. Send for sample to BELL, Beverley House, East Barnet. 965

EXCHANGE pair good NORWICH CANARIES, also "HONEY BEE" (Cowan), for good natural SWARM. WALKER, Common, Newton-le-Willows, Lancs. 964

FOR SALE, splendid new ENGLISH HONEY, 6½d. per lb.; sample, 2d. Swarms, 10s. each; two, 19s. Cash or deposit. ALBERT COE, Apiary Hall, Ridgwell, Halstead, Essex. 973

WANTED, SECTION HONEY (good). Exchange Bee Appliances, Incubators, Baskets, Hampers, Willow Furniture, Garden Seats. All new goods. Lists free. RUSSELL, Basket Shop, Christchurch. 971

FOR SALE or EXCHANGE, OBSERVATORY HIVE, made of beech and walnut, to take one frame with section-crate above. Fitted with Brice's Feeding Stage. Two outlets for bees. SEAMARK, Willingham, Cambs. 970

PURE Italian SWARMS. Guaranteed healthy; packing free. W. A. TAYLOR, Poplars, nr. Luton.

SECTIONS, first quality, Wiltshire Downs, 9s. doz. Orders executed in rotation. Miss WENTWORTH, Avebury, Marlborough. 949

FEW spare strong STOCKS FOR SALE. Swarms booked forward. Schoolmaster, Littleport, Ely. 955

FERTILE ENGLISH QUEENS, 5s. 6d. each, post free in travelling cage. JEMEISON & BAKER, Bee Specialists, Dringhouses, York. 962

PROLIFIC YOUNG QUEENS, healthy, 3s. 6d. in introducing cage, free by return. CARBINES, Venn Cardinham, Cornwall. 959

NATURAL SWARMS FOR SALE, 10s. each. Apply, H. HOLLEWORTH, Manor Farm, Wysale, Notts. 944

NATURAL healthy SWARMS, packed in skeps, free on rail 10s.—JOHN WOODWARD, Fladbury, Pershore. 941

SWARMS FOR SALE, healthy and strong, 10s. 6d. each. Boxes to be returned. E. LONG, Fulbourne, Cambs. 937

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. HORSLEY, Merridale House, Top of Castle Drive, Isle of Man. 932

SWARMS of superior BEES, 10s. 6d., 12s. 6d., and 15s., packed free. JOHN WALTON, Honey Cott, Weston, Leamington. 907

Prepaid Advertisements (*Continued*).

SWARMS, packed in skeps, and rail carriage free, 12s. Cash with order. Mrs. KIME, Mareham-le-Fen, Boston. 921

FINEST Prolific Queens, Stocks, Nuclei, and Swarms. Queen-rearing a speciality for 13 years. List free. Rev. C. BREERETON, Pulborough, Sussex.

MOST Profitable and Up-to-Date QUEENS, BEES, HIVES. Particulars of S. SIMMINS, Heathfield, Sussex.

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 828

BEST quality 1900 laying QUEENS, 5s. each; two 9s. Virgin Queens, 2s. 6d. each. 3-frame Nuclei, with young Queen, 12s. 6d. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

BEES WANTED in Exchange for a large KNITTING MACHINE; knits two stockings, &c., at once. Harrison's list price £39. What offers? WILLIAM DOWN, Catchgate, Annfield Plain, Durham. 960

24TH YEAR.—SWARMS, 10s. 6d., 12s. 6d., 15s., Cases free. Three wire-framed Nuclei, Queen, Bees, and brood, 12s. 6d. Cases returned. ALSFORD, Expert, Blandford. 930

TANNED GARDEN NETTING.—25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Only best quality supplied. L. WREN & SON, 139, High-street, Lowestoft. 818

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

A FEW SWARMS FOR SALE, 10s. each, box to be returned. Two 4-frame Nuclei, pure Ligurian Queens, 1899, 12s., package included. Cash or deposit. ROBERT NESS, Oldshead Grange, Ampleforth, York. 950

THE most satisfactory departure in the South for imported Hybrid and Virgin Queens. Swarms a speciality. My hives guaranteed waterproof in winter. List free. SPEARMAN, Colesbourne, Andoversford. 934

HYBRIDS FOR PROFIT.—My Virgin Queens (Italians and Carniolans), 2s. 6d. each; three, 7s.; five, 10s.; from selected mothers in perfect Introducing cages; safe arrival guaranteed. SPEARMAN, Colesbourne, Andoversford. 938

BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. EDWARD REYNOLDS, Glove Manufacturer, Andover.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2⅞, 3, and 3½ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 9d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

FOR SALE, BEES, HONEY, HIVES, and APPLIANCES,
New and Second-hand, Cheap.
SPECIALLY CHEAP, well-made HIVES, catalogue price (new) 24s., for 18s. to effect a speedy sale.
H. N. BAXTER, Sedbergh, R.S.O., Yorks.

HUNTS B.K.A.

ANNUAL SHOW

TO BE HELD AT
Buckden Towers, Huntingdon,
ON
JULY 11th,
Open Class for One Bottle.
C. N. WHITE, Hon. Sec., ST. NEOTS.

Editorial, Notices, &c.

"ROYAL" SHOW AT YORK.

THE PRINCE OF WALES AND THE DUKE OF YORK IN THE BEE TENT.

Though not an ideal week for an agricultural show, the weather kept fairly favourable while the Exhibition lasted, rain falling on only two days, and then not heavily enough to affect the attendance, which on the whole was very satisfactory. The Prince of Wales—who was accompanied by the Duke of York—spent a long and busy day at the Show on Tuesday, the 19th, and the occasion was made somewhat memorable for the Bee-Department, owing to the Prince having signified his wish to visit the bee-tent and witness the operation of bee-driving. Accompanying their Royal Highnesses were the Earl of Feversham and the Hon. Derek Keppel, together with Mr. Percy Crutchley (Hon. Director of the Show), and Mr. Compton-Bracebridge (Assistant Director). Promptly to time the Royal party arrived, and were received by the Steward of the Bee-Department (Mr. W. Broughton Carr), and the Secretary of the Bee-keepers' Association (Mr. Edwin H. Young). Mr. Carr and Mr. W. Herrod (Expert of the B.B.K.A.) occupied the netted enclosure, and the latter was deputed to "drive the bees," which he did very neatly and well, their Royal Highnesses looking on and apparently full of animated interest in the operation. The queen, on being caught, was, along with a couple of workers, placed in one of the new section-cases, glazed on one side and having a flap-lid with a gummed "tag" to secure it by. The queen was a fine one, and showed very plainly on the white cardboard, her appearance being closely examined by the Royal onlookers for a few minutes, after which Mr. Carr laid the section-case containing the queen on the top of a frame-hive near at hand, while the driven bees were shown in the skep, and their entire subjugation and disinclination to sting were demonstrated by the bees being taken up in handfuls. The Duke of York having inquired in what way the bees were removed from the hands, and being shown the usual method of jerking them off by a downward shake, the Prince of Wales jocosely observed, "And a very good way, too." Just then, the Earl of Feversham—who had been noticing the queen, as the box in which she was confined lay on the hive close by—remarked hurriedly and in some alarm to Mr. Carr, "The lid of your box is open, and the queen-bee has flown away!" and on looking round it was seen that the lid of the section-box had by some means become unfastened and the queen had gone! Being an old practitioner, however, Mr. Carr made the best of the matter by saying, "If we remain perfectly still she will probably return." Seeing that the Royal onlookers had been promised a sight of the queen-bee re-entering the hive along with her subjects, the speaker was more hopeful than certain that this would happen, but, fortunately for the complete success of the operation, in less than a minute Lord Feversham exclaimed, "There she is! I see her on the back of your coat," and sure enough the queen-bee had alighted, to the surprise of the spectators, on the shoulders of the much-gratified Junior Editor, who was perhaps more anxious than any one that the exhibition should not be marred by an untoward incident. As it was, the queen, by her unexpected aërial journey and fortunate return, contributed largely to the success of the proceedings, for, when returned to the bees, she led her joyful subjects into the hive, to the delight of every one in the Royal party.

Both the Prince and the Duke of York expressed themselves as greatly pleased with what they had seen, and heartily thanked all concerned for the interesting exhibition they had witnessed.

Resuming our report on the exhibits in the Bee-Department, we may say the show of honey was very satisfactory, considering the early date on which it was held and the adverse character of the season. But the strong point of the "Royal" of 1900 was undoubtedly the display of bee-appliances. Beginning with Class 366 for *Collection of Hives and Appliances*, in which there were seven entries, six were shown, the remaining one being on the show-bench, but staged too late for competition. Taking the class as a whole, it was an exceedingly good one, the prize-list—as printed last week—fairly showing the order of merit in which the large displays made by each exhibitor stood. The only thing we could take any decided objection to was the mistake still made by some Northern appliance-dealers in continuing the objectionable practice of making the hive-sides project for an inch or two above the frame-tops on which the supers rest, and so adding enormously to the difficulty of removing surplus-chambers when filled. It almost makes one fancy such hives were made by men who never worked a hive for honey when so great an oversight is made. Apart from this fault, some admirable hives and appliances were shown, and the prize collections were a credit to the makers and to the craft.

Messrs. Meadows and Jas. Lee & Son, who took 1st and 2nd respectively in this class, each staged a collection of goods all of excellent type and workmanship, rendering it difficult to choose between them for the premier place. This was evidenced by the fact that the position of the two firms at Maidstone were reversed at York, Mr. Meadows securing 1st and Messrs. Lee 2nd. For the rest the northern dealers, being near home, made the most of the advantage,

and sent unusually large collections of "other distinct articles not specified," as they were entitled to do according to the schedule. The general excellence, therefore, of the displays made by the three Yorkshire manufacturers, Messrs. Jemeison & Baker, York, Wm. Dixon, Leeds, and W. Shepherd, Tadcaster, secured 3rd, V.H.C., and reserve No., and a commend for them in the order given. A high commend was also given to R. H. Coltman, Burton-on-Trent.

Class 367. *Outfit for a Beginner in Bee-Keeping.*—The entries in this class this year numbered nine (all staged) against seven in '99. After three years' trial it would now seem that the ideal has been reached so far as regards what can be supplied for the fixed sum of 30s., viz., complete hive ready for use (generally analagous to the one shown in the class for Cottagers' hive, price 10s. 6d.), extractor—simple in make but efficient—smoker, feeder, bee-veil, and book on bee-keeping. Bearing in mind the prices formerly charged for a hive alone which—while no better than was here included—exceeded the cost of the whole "outfit," it will be admitted that good and full value was given by every exhibitor who got an award at York. All were excellent, and it becomes almost a question who will go furthest in the effort to what is called "one better" than his opponents by offering a higher priced smoker, feeder, or bee-book, in order to "win." What is eminently satisfactory, however, is the fact that a beginner can now set up in the craft for a very moderate sum indeed, and the institution of this class in the schedule three years ago has thus effectively served its purpose.

Class 368. *Observatory Hive with Bees and Queen* (4 entries).—This was a small class, and there was no trouble in placing the awards, Jas. Lee & Son, who staged the same hive as last year, easily taking 1st; while W. Dixon secured second with a good hive of the ordinary type.

Class 369. *Complete Frame-Hive for General Use* (11 entries).—A remarkably good class throughout, comprising as it did, to our mind, some of the best hives ever seen on a show bench. Messrs. Jas. Lee & Son secured the first prize for a "W.B.C." hive, having attached to it their new non-swarming arrangement, by means of which any hive of the same type now in use may be converted into a non-swarmer at the slight expense incurred for the new "arrangement." This latter was shown at the *Conversazione* of the B.B.K.A. in March last, and very favourably commented on. The hive, as staged at York, can be used (1) to prevent swarming; (2) for rapid feeding in autumn, without disturbance of quilts or bees; and (3) to give space below frames in winter; all these advantages being effectively secured, along with ample ventilation in hot weather, in the simplest manner.

(*Conclusion of Report next week.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

DEALING WITH FOUL BROOD.

[4015.] When I read the letter of "Dubious" in your issue of June 7 (page 226), I hoped it would lead to a discussion upon the cause of the spread of foul brood, which is working such havoc amongst bees in many parts of Great Britain, but it has so far not done so, and I have thought it well to send a contribution on the subject.

I began bee-keeping when I was eight years old, which is now forty-two years ago, and until fifteen years ago I had no experience of foul brood, but since then my bees have had it three times. The first time, after trying to cure them by Cheshire's plan, I had to destroy nine stocks. The second and third times I cured the bees by making swarms of them and feeding with medicated syrup, as directed in Mr. Cowan's "Guide Book."

I kept bees for many years in South Wales before I came to Sussex, and I also had three years' experience with bees in Indiana, U.S.A., bringing four stocks over here with me, as I noticed several peculiarities in the bees of that district and wished to compare them under similar circumstances with my bees in this country. I mention these facts to show that I am not a beginner, though only an amateur. At present I have fifty-two hives, and am working out the problem, with the aid of careful economy and bookkeeping, of whether bee-farms can be made to pay in this country, and I find the greatest difficulty that has to be contended with by the average bee-keeper in the United Kingdom is the plague of foul brood.

Amongst the skeppists of this neighbourhood the disease is unknown as far as I have seen or heard, but I hardly know of a frame-hive apiary about here which has not got it or has recently had it, and I am sorry to say that I believe it has been introduced and spread to a large extent by professional bee-men—not only by experts who visit bee-keepers, but by those who sell bees also. Many are most careful and excellent men, but I have had experience of a few who are culpably careless. For instance, I bought a stock of Italian bees from one of the largest dealers in bees and appliances in the spring of 1898, and finding it badly affected with foul brood of old standing I destroyed it, and on complaining to the firm from whom I bought it, the only satisfaction

I got was, "We are very sorry, and if you had not destroyed it we should have been happy to take it back and send you another."

So strongly have I been impressed during recent years with the ease with which the spores of foul brood are carried from one place to another on the hands, clothes, or appliances that I never allow any one to touch my hives, and never, under any circumstances, lend my appliances.

I could write a great deal more about cases that have come under my notice of the spread of foul brood, but if I did so, this letter would become too long.

My experience leads me to think that foul brood is not nearly such a trouble in the United States as it is here. One reason is that not nearly so many people in America keep one or two hives for pleasure or a little profit as they do here, and the distance apart between apiaries is much greater there than in this country. Inexperienced bee-keepers in a small way do not detect the disease until the bees have died, and by then probably bees from healthy colonies have robbed the infected stock and so carried the infection home.

I do not personally dread foul brood much, but when examining hives I wash my hands with carbolic soap after each manipulation. I put naphthol beta in the food in spring and autumn, and after the honey harvest destroy all queens and give each hive a ripe queen-cell. I prefer this way of requeening, and it costs next to nothing.

I hope what I have written may lead others to follow my example with regard to this subject, as it is a serious one, and I know of several bee-keepers who are quite disheartened owing to the trouble they have had with foul brood. They have neither the knowledge nor the inclination to deal with it, and of course the expert who visits them has not time to do more than look over their bees and tell them that their bees are diseased.—J. H. Rogers, *Sussex, June* 25.

HEAVY SWARMS IN CORNWALL.

PROLIFIC BEES AND QUEEN-EXCLUDERS.

[4016.] I am sending on a few bees to ask if you can tell me what race or kind they are? The queens seem to be very prolific, my first swarm this season (on Whit Monday) containing over 9 lb. of bees. I am certain it was only a single swarm, as I saw them start from the hive (a ten-frame one with sections on), and kept my eye on them until they began to settle on a small bush. I then placed a large 20-in. "Pettigrew" skep over the bees as their weight had bent the bush to the ground, and they went up into it. As I always use full sheets of foundation, there were very few drones among the swarm. I have this season had other swarms weighing respectively 8¼ lb., 8 lb., 7 lb., 6½ lb., 6½ lb., 6 lb., and 5 lb. Are not these swarms larger than usual, seeing that my eight swarms averaged over 7 lb. each? I also find brood in the supers in almost every case when queen-excluder is not used, although I have tried every way I have heard or read about for preventing it. The queens will go up into surplus chambers even with fourteen or fifteen frames in brood-nest. In one case I had two standard bodies, each holding ten frames each, for brood-nest, yet the middle row of sections was spoiled by brood in them.

Of course, with old or worn-out queens it may be otherwise, but with young queens of a good strain I think excluder is absolutely necessary. Is that your opinion?—Edwin W. Carbines, *Cornwall, June* 18.

[The bees sent are of the common or ordinary kind, with nothing beyond the slight trace of the foreign element noticeable in most of the bees in this country. The prolificness of our correspondent's queens is very marked, as proved by the eight swarms aggregating over ½ cwt. of bees. With regard to queen-excluders, our personal preference has always been to use them below all surplus-chambers, but some practised hands dispense with them in working for sections.—Eds.]

GREASY SECTIONS.

[4017.] With reference to the question of "Greasy Sections" now claiming attention in your pages, I may say that during my two seasons' work with bees in Colorado, U.S.A., I came to the conclusion that both the bees themselves and the variety of honey they happened to be storing at the time had to be considered as factors in the production of clear white cappings to sections. In that part of Northern Colorado where I was, viz, 100 miles or so near Denver, Greely, and Fort Collin, the honey crop is almost entirely confined to three varieties of plants all yielding light honey:—First, alfalfa, or lucerne, honey is the whitest and has the whitest comb cappings to be found anywhere in the States. Next comes the sweet clover or melilotus (not white clover, as none grows there), nearly as white a honey, while the capping of the comb is quite so; the flavour of the honey, too, is the best and it does not granulate readily. Third comes the honey from cleone, called the "Colorado bee-plant," one of the cruciform or cabbage order with lilac or purple flowers. This is nearly as white as the two first-named, and is also a good honey, and the bees will often cap the comb very nicely, but not always. In my crop each year I had nearly equal parts of these three kinds of honey, and among them I never got a single section of clear capping on the comb containing the first two sorts, while about one-half of the crop from cleone was satisfactory in all respects. Some of my colonies capped every section they filled with this honey quite nicely, while others showed the greasy cappings on more or less of the sections. Thus I do not think it is correct to blame the bees entirely, feeling sure that the variety of honey stored has something

to do with the matter. The cause of this "greasy" appearance was, I think, given correctly in America years ago by its being shown that when the under side of the capping comes in close contact with the honey the air in the cell is being driven out and replaced with honey, so the cappings of the section take almost actual colour of the honey. While in America every bee I saw in Colorado seemed to me to be pure Italians.—W. A. V., *Dublin, June* 21.

MANIPULATING INFECTED HIVES.

[4018.] Although the infective nature of foul brood is gradually becoming better recognised and guarded against, yet I think that from statements made in bee literature and from personal observation there is still great scope for the exercise of more care upon the part of hive-owners in general, and bee experts in particular, when manipulating infected hives. As a rule, the fault is not so much due to carelessness as to an imperfect knowledge regarding the power of infection a single diseased colony possesses, and the numerous unsuspected ways in which it may spread the infection to its neighbours. It may be taken for granted that foul brood cannot arise in a hive *de novo*, but must be communicated from without. This contamination, roughly speaking, may be brought about in three ways. Firstly, by the bees themselves; secondly, by the use of old hives which have previously (it may be years before) been infected, and in which spores have been lying imprisoned and are let out by the opening of cracks or joints; and thirdly, by direct infection from one hive to another by insufficient care during manipulation.

As regards the first cause, the robbing of a weak, diseased colony by a healthy one, is a common mode of infection, but I think that sufficient amount of stress is not laid upon the fact that the entrance of strange bees into a hive is a much more frequent occurrence than is generally supposed; and as long as foul brood exists in any district it is a source of infection that cannot be safely guarded against. If all infected hives were burnt the second cause would cease to exist, but in the absence of any scheme of compensation this treatment is not likely to find favour with the majority of bee-keepers, and the most that can be expected is destruction of bees, frames, and quilts, and disinfection and repainting of the hives. Paint will certainly hold spores captive for a longer or shorter time, but when it cracks they are scattered again and the old trouble ensues. It is to the third cause of infection that I particularly wish to draw attention, viz., that carried from one hive to another by manipulation. The ordinary procedure is as follows:—The quilts are first taken off and probably laid on the nearest hive or in some exposed position where other bees alight on them. The frames are then taken out and examined. When a suspicious piece of comb is seen, the cells are uncapped either with the finger-nail or with a dirty knife, which is then laid aside; the existence of diseased larvæ is demonstrated by extracting them from the cells with a pin, and the presence of the coffee-coloured liquid is proved by inserting a match into the cell and drawing it forth, the *matches and pins being then thrown away.* The hive is then closed, and before the next is opened the operator washes his hands in some antiseptic fluid with the idea of sterilising any traces of the disease that may have become attached to them. Such a procedure as this offers a multitude of ways for spreading the infection which may be prevented.

If a hive supposed to be affected with foul brood is examined, the operator should be prepared with a bucket of strong antiseptic fluid, into which contaminated articles can be put and rendered innocuous. Quilts should not be allowed to lie about, but should either be destroyed by burning at once, or be put into the antiseptic solution until it is convenient to do away with them.

The uncapping of infected cells should not be done with the finger-nail, but with some metal instrument which can be kept clean by the antiseptic, and as soon as it is finished with it should be passed through the flame of a spirit lamp or heated to redness in a fire. If matches or pins are brought into contact with infected cells they should at once be dropped into the antiseptic solution and be afterwards put into a fire. On no account should contaminated articles be allowed to lie about so that other bees may alight on them. If an infected queen-excluder is taken off, it should be at once covered with an antiseptic cloth until it can be dealt with. The remaining source of infection is the hands of the operator, and it is almost impossible to make the hands of the average bee-keeper sterile when they have once been infected.

The source of infection lies chiefly under the finger-nails, but the skin may also contain bacilli and spores in cracks and pores. To enable one to appreciate the difficulty in rendering hands sterile, we have only to study the elaborate preparation which a careful surgeon subjects his hands to before an operation, and it is sufficient to say that such a preparation would be impracticable, if not impossible, to the average bee-keeper, especially if he has to do manual labour in addition to his bee-keeping. The only alternative is to wear gloves during the manipulation of diseased hives, which can afterwards be disinfected or destroyed.

If it be thought that these remarks savour of "faddism," it should be borne in mind that any means that will lessen the sources of infection should be welcomed, and all the hints which are given above are easily carried out with very little trouble.—J. H. S. (M.D.), *Wells, Som., June* 22.

(*Correspondence continued on page* 256.)

HOMES OF THE HONEY BEE.

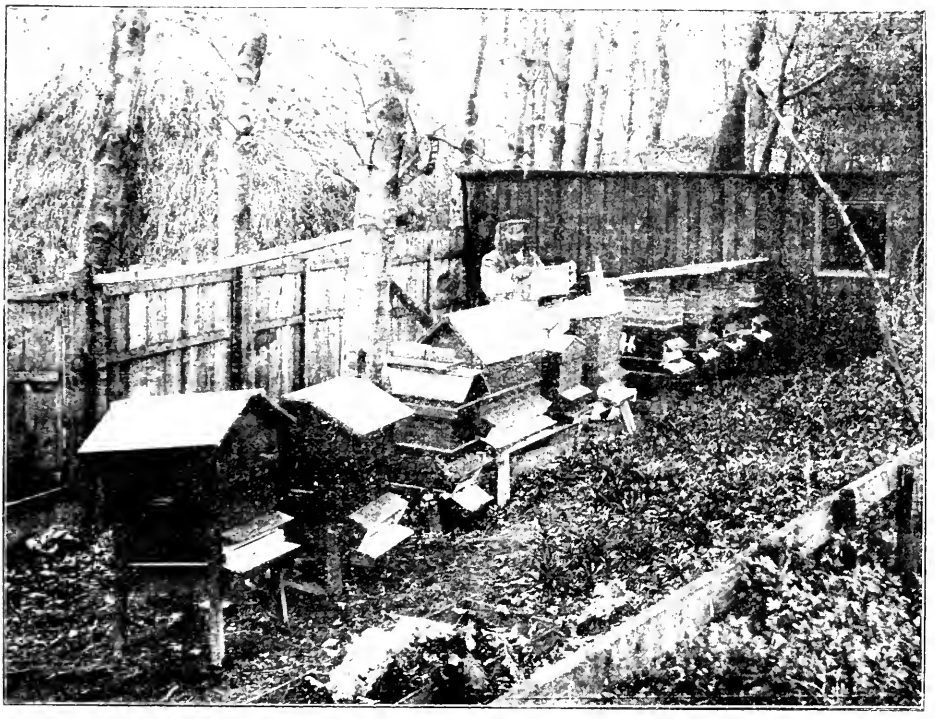
THE APIARIES OF OUR READERS.

We are glad to insert below the picture of another bee-garden, the owner of which has proved to his own satisfaction that bees—if well managed—will pay. Mr. Fletcher shows this clearly when he says :—

"I got my first idea of bee-keeping from an article I read in *Answers* (Harmsworth's weekly), describing how a man kept a hive of bees on the roof of his house in the middle of London in 1894. I became very much interested in what I read, so in August, 1895, I purchased a stock of bees on frames. Having no garden, I kept them in the top room of the house, and the bees used to fly out through the window (my house was then in the centre of Sheffield, and they appeared to work well. In February of the following year they were very strong, and as I possessed no books on bee-keeping I started to feed the bees on syrup out of a bottle, the mouth of which I covered with cloth, but the bees managed to eat a hole in the cloth, and the syrup drowned the lot of them! In the May following I purchased four more stocks from different places, and located them on the outskirts of the town. I was, however, equally unfortunate with these, as three of them died in September and the fourth early in the spring for want of food.

"I then made up my mind to master the art of bee-keeping, and at once commenced to take the BRITISH BEE JOURNAL and the *Bee-keepers' Record*, and from these and practical experience with the bees I soon learned how to go about it properly. I purchased a couple of frame-hives well stocked with bees, and fixed them up at a farmhouse out in the country, and they did very well. I kept no account of how much honey I got, but I sold it at 1s. per lb. as fast as I could get it.

"Another drawback to my bee-keeping was the nuisance caused by a lot of fowls which ran among my hives. I had noticed that they ate the dead bees, but found they ate the living ones as well, so I got a length of wire-netting to keep them off. I also boarded up at the back to keep off the north wind.



MR. W. FLETCHER'S APIARY, HANDSWORTH, NEAR SHEFFIELD, YORKS.

"The shed on my left in the photo is where I make some of my hives. I also make a few at the back of my sale-shop. I have also another shed to my right, but the ground was too long and too narrow to show this in the photo. In 1898 I purchased three more strong stocks from a man who was giving up bee-keeping, and they did remarkably well. With swarms I made my stocks into nine, and got nearly 300 lb. of honey during that season. The year 1899 saw me with nine strong stocks, and I got nearly 1,000 lb. of honey from them, and now bee-keeping pays me well, for I

made up for all my losses and had a good profit as well.

"I started the present season with fifteen strong stocks, and am working ten for honey and five for swarms, as I have ample time for looking after these. Last year I took my hives to the heather for the first time. The distance from here is nine miles. I started to the moor in the middle of the night. By so doing, if the bees get out they will not fly, and you can travel with the entrances to the hives quite open in the dark.

"I should advise new beginners never to be taught by an old bee-keeper (even with 'forty years' experience') if he has used nothing but straw-skep hives, as they really know very little about bee-keeping. One old man, who told me he was a bee-keeper with thirty years' experience, says that the young queen always comes out with the first swarm, so he burns the old stock remaining in the hive. I always renew three combs in each hive either the last week in April or the first week in May, giving full sheets of foundation in exchange for the old combs. I also transfer bees and frames into a clean hive at the same time, and find that the bees work better on new combs than on old ones, also the young bees seem to be larger and stronger; whereas if they are kept in a straw skep for ten or more years without changing they seem to get smaller, and the honey crop amounts to nothing. On the other hand, the young and larger bees are stronger and never seem to tire, but work from early morning till late at night.

"I am always pleased to send you all the news I possibly can to help your valuable paper, as I have learnt pretty nearly all I know of bee-keeping from it. I know several other bee-keepers in my neighbourhood, and I try and persuade them to follow my example by sending an account of their experiences and photos of their bee-gardens. I shall be glad to write to you again at the close of the heather-bloom, as I hope to take all my hives again this autumn to the moors."

CORRESPONDENCE.

(*Continued from page* 254.)

BEES ON THE COTSWOLDS.

[4019.] In this district it is "bees everywhere." I have never seen properly managed colonies promise so well as this year up to date. Several of my stocks are working on twenty shallow-frames, and still more room wanted; indeed, I have just put a third super of ten shallow-frames on one hive which already had ten shallow-frames and a rack of twenty-one sections, all well filled and nearly sealed over. These two supers combined were just as much as one could lift comfortably in setting the third one below. My "Wells" hive has thirty-one shallow frames on, three parts full of sealed honey. We owe Mr. Wells a big debt of gratitude for giving us details of his successful system of working.

Most stocks about here wintered remarkably well, if they were well provided with natural stores, which I make a point of always leaving in each hive. In my own apiaries not an ounce of sugar-syrup has been given for many years past. The wealth of bloom here needs the pen of a "Lordswood" to describe its beauty and variety. Dear, delightful Lordswood, how eagerly I used to look for the pen-pictures he contributed to your pages! One describing the hill-flora of my own immediate district I would much like to read once more if any reader would kindly tell me the number in which it appeared.

Swarms have been very plentiful during the last three weeks; I have even had one myself (the first in five years), as I have managed to stop control swarming. Bees on the Cotswolds are all doing remarkably well, and the honey is of excellent quality in every respect. Farmers just beginning mowing, stormy weather delaying it somewhat, a drizzling rain day to day, but bees working hard all the time; Dutch clover just coming into bloom, sainfoin ditto, limes promising well. Late plums, apples, and bush-fruits of all sorts are, thanks to the bees, loaded with heavy crops, and will want severe thinning-out; much fruit on the ground now. If we only get suitable weather the honey-crop will also be heavy.—W. HUGH LAANCE, *Alderley, near Wotton-under-Edge, June* 20.

EXPERTS AND FOUL BROOD.

[4020.] With reference to No. 4004, page 226, and No. 4014, page 244, will you kindly allow me to say, as the only other expert I know of employed by the Kent and Sussex Dual Association (Kent division), I have not visited or been in the company of Mr. Knight. I would have written sooner, but having been travelling a great deal lately, unfortunately had not seen my BEE JOURNAL as usual. I should rather fancy the experts in question were local ones and not certificated by the B.B.K.A. I quite agree with Mr. Knight in not allowing men whom he had been so careless with foul brood to inspect his stocks.

During my tours in three counties I have seen a great deal of mischief wrought by these so-called experts. They mean well no doubt, but have not the necessary knowledge of the very contagious character of foul brood, and often of even elementary bee-keeping. As a case in point, I visited a lady not above three weeks ago who had bought a stock on frames from one of these self-styled bee experts. The racks would not go on properly, and upon examination I found he had actually put the frames wrong way about, viz., with the shoulders resting on the side of the hive instead of in the rebate.—W. HERROD, *The Horticultural College, Swanley, Kent, June* 25.

ERRATIC SWARMING.

[4021.] My first swarm issued Sunday, June 10. It was quite unexpected; the weather had been ungenial, no honey flow, and the brood nest was incomplete, but it was a good swarm. I thought swarms were not vicious, but this one was (they were black bees without, as far as I know, any foreign blood); when shaken down they flew at me like fiends, and in no time I had a dozen or so stings. I had to don thick woollen gloves for once. The Friday following I heard piping in the old hive, so next morning, at eleven o'clock, finding there was a fine young queen I destroyed all royal cells, but at one o'clock a swarm issued and was returned. On Monday they issued again in spite of there being no royal cell. An examination of the nearly-deserted hive showed none had been overlooked. I made an artificial swarm from a Carniolan stock. Finding a fine young queen hatched and having heard piping, I destroyed the only other royal cell, but next day they, too, swarmed. Thus, as in the former case, the hive was left queenless, and no prospect of having a queen. Can any reader explain such erratic behaviour?—*Alpha, Hull.*

Echoes from the Hives.

Driffield, Yorks, June 25.—The outlook for a good honey crop in the East Riding of Yorkshire is of a very gloomy description. At this season the broad acres of clover should be a sheet of white, but instead of that—with just an exceptional field here and there—the clover is eaten to the roots by the sheep, and the fields appear a brown-looking barren waste, a few thistles being the only green visible. Under these circumstances our industrious little workers will forage in vain. The long spell of dry, cold weather lasting till the first week in this month has been responsible for this state of affairs. In the permanent pastures there will be some clover, but practically nowhere else; we must now build our hopes upon a good heather harvest. It will be a disastrous year in all probability for skeppists, but as foul brood is very prevalent in my neighbourhood, a bad season will no doubt weed out all foul-broody stocks; but unfortunately, pig-headed old skeppists will treasure the old foul skeps, and so the evil will recommence, to say nothing of diseased stocks being robbed by healthy ones. We badly want inspectors with compulsory powers.—ALPHA.

Queries and Replies.

[2434.] *Buying Diseased Stocks of Bees.*—I bought ten hives with bees at an auction sale last year, and am afraid there is foul brood in some of them. I enclose samples of comb numbered one, four, five, and ten, and should be much obliged if you will kindly say. 1. Whether foul brood is present in either sample? 2. If foul brood is present, please say if the "soluble phenyle" referred to in recipes in "British Bee-Keepers' Guide Book" is of a fixed strength, and if it can be obtained at any chemist's? 3. Can I do better than adopt the soluble phenyle solution and thus avoid destroying frames, &c.? 4. In April an expert examined my hives: should he not have detected the disease? "F," *Hindhead.*

REPLY.—1. There is foul brood of old standing in all four samples of comb sent. 2. Soluble phenyle is of "fixed strength," and if not obtainable from your local chemist may be had from Morris Little & Co., Doncaster. 3. Under the circumstances we should not attempt to disinfect the frames, but burn them along with the combs. 4 It is sometimes difficult to detect foul brood in early spring without removal of combs from the hive and examining with the microscope. May is the month when the pest is most readily seen because of large patches of sealed brood failing to hatch out.

[2435.] *Transferring Bees from Hives with Fixed Combs.*—Kindly let me know the best way to get bees out of two old wooden hives, not standard size. No. 1 hive contains a very strong stock of bees, on fixed combs, no frames or bars of any sort; this hive has a removable floor-board. No. 2 is a very old hive, containing a strong stock of bees, on four standard size frames; the rest of the brood-chamber, having no frames, is filled with combs fixed to the hive sides. Both hives are supered with a rack of sections, to which the bees have taken well; but when the honey harvest is over, I should be extremely obliged for a few hints as to how to remove the stocks into hives with standard size frames.—E. RUSSELL, *Christchurch, June 20.*

REPLY.—In view of the combs being old, and probably not very straight, we should give up the idea of transferring them to new hives. It is far preferable to fit up the latter with full sheets of foundation, set the old hives—minus floor-boards—above top bars of new ones, and allow the bees to transfer themselves below. If this is done at once, according to instructions in new edition of "Guide Book," there is still time to get the new combs built out, and at close of season the old hive may be removed as a super, and its honey appropriated as surplus for extracting.

[2436.] *Removing Hives after Transferring.*—I should be grateful for your advice in the following difficulty: I have an old hive with fixed frames and am transferring bees to standard frames, following the method given in Cowan's "Guide Book." The period for completion of transfer expires 25th inst., but it has unfortunately become necessary for me to remove my hives a distance of seven miles

within about a fortnight. Upon examination I find, owing to hatching of brood during transfer, there are twice as many bees as a ten-frame hive (without lifts) will receive, and this is the largest I have. How can I best regulate the removal?—C. A. H., *Camberley.*

REPLY.—We are at a loss to tell where the method of transferring you mention is described in the "Guide Book." Please name the edition and state what page it appears on, when we will reply. Your remark about "the period for completion of transfer expires on the 25th inst." mystifies us, and we cannot tell what method is referred to without further information.

[2437.] *Ownership of Runaway Swarms.*—On Sunday, the 17th inst., a swarm of bees settled in a plum tree in the garden of a friend of mine, and he asked me to hive the same and take them away, which I promptly did, as you may suppose, and placed them in a frame-hive on foundation and commenced to feed, but the following day an old bee-keeper came along to claim the bees, saying they belonged to him, and how glad he was that I hived them because he could not have done it himself until the next day (he is a very neglectful man). Now, I am quite willing to give up the bees to the owner without any compensation, but I beg to ask: (1) can he legally claim them? And (2) what would be a fair compensation to ask for if I wished it? It appears that he is willing to pay my expenses (5s. 6d.) for foundation, sugar, frames, &c., and take the bees away. I may say that when he came to claim the bees he brought the policeman with him—I don't know why, except to enforce the law! The swarm weighs about 5 lbs. A reply through the B. J. will greatly oblige.—"A CONSTANT READER," *Coventry, June* 20.

REPLY.—1. In order to legally establish his claim, the owner—or his representative—must see the bees issue from his hive and not lose sight of the swarm till the bees have entered the receptacle from whence he desires to remove them after making a proper claim. We need hardly say, however, that litigation on such a matter is very much to be deprecated, and if you are fairly certain that the bees came from the apiary of the claimant we should accept his offer to refund your outlay and say no more about it.

[2438.] *Sterilising Wax from Diseased Hives.—Solar Wax-Extractors.*—1. Is there any treatment that in your opinion would render wax from foul broody hives absolutely safe for making into foundation, and if so, what? 2. From whom can I procure a machine to make comb-foundation about 1 lb. at a time, and what is the usual cost of same? 3. Have you any experience of such machines, and do they answer the purpose as well as one on a large scale? 4. I have attempted to make a solar wax-extractor, but it failed in operation. I used 1 in. boards, and made it about 18 in. square and 13 in. and 8 in. deep at back and front respectively. I fixed a sheet of perforated zinc across in the body of it so that it would be about 3 in. from the glass lid. On the zinc I put some old combs and then placed a large sheet of glass (not fitted into a frame) over all for lid, which, I think, lay fairly close to the timber. Although placed where the sun's rays fell full on the glass, the combs did not melt. The glass used was about $\frac{1}{16}$ in. thick. Can you say why I failed?—CAPACITY, *Co. Carlow, June* 19.

REPLY.—1. Mr. J. H. Howard undertakes to sterilise wax from diseased colonies, but we are not conversant with the process, nor can we vouch for its efficacy. 2. Mr. C. Redshaw, South Wigston, stocks the only hand-press we know of for making comb-foundation. Write him for price, &c. 3. Our own experience is that it is far better to buy foundation from a good maker than try the home-made article. 4. The failure in your case arose from not constructing the "solar" on proper lines. To lay a sheet of glass loosely on top of the frame bespeaks failure at the outset, in view of the fact that the body of the appliance must be hermetically sealed, as it were, in order to conserve or retain all heat inside. Read some of the descriptions of how to make a solar wax-extractor which have appeared in former issues of this journal, and you will soon learn how to succeed by following them out fully and carefully.

[2439.] *Non-Swarming Hives. Bees Refusing to Enter Supers.*—I have two stocks of bees in non-swarming hives; they are very strong, but will not go into the supers. One of them has nearly filled two of the shallow frames with brood. Will you kindly advise (1) what I can do to make them enter the supers. (2) I use a cloth damped with weak carbolic solution when I put the supers on; has that anything to do with it? (3) Would it be of any use to take away the non-swarming chamber?—W. COOPER, *Ryde, Isle of Wight.*

REPLY.—1. A properly-made "non-swarming hive" is supposed to do away with the difficulty of which you complain, by enabling the bee-keeper to withdraw the shallow-frame surplus-chamber—placed below the brood-nest to prevent swarming—when the bees have started work therein, and set it overhead as a super. Why this is not possible in your case we cannot say, beyond supposing that the hive is at fault. 2. If the odour of carbolic acid hangs about supers it has a tendency to deter bees from entering them. 3. As stated above, if the non-swarming chamber is removable, your trouble is overcome at once by setting it above brood chamber as a super.

[2440.] *Dividing Stocks to Prevent Swarming and Giving Queen-Cells.*—I am a novice in keeping bees, and last week, in order to prevent swarming from the very strongly popu-

lated hive that I possessed, I divided it into two according to directions given on page 92 of "Guide Book" (fifteenth edition). I want to ask the meaning of waiting until the second day before I gave the old removed stock a ripe queen-cell. I could have done so the same day when settling them down, but did not, not knowing why.—WM. COBURN, *Birmingham.*

REPLY.—The reason why a certain time must be allowed to elapse before introducing a "ripe queen cell" into a divided colony is that the bees would probably destroy the queen-cell if given earlier. In other words, the bees must be allowed to find out their queenless condition, and prepare for raising another queen before giving them the already "ripe" cell.

Bee Shows to Come.

July 11, at Buckden Towers.—Hunts B.K.A. Annual Show of Bees, Honey, &c. Open class for single 1-lb. bottle. C. N. White, Hon. Secretary, St. Neots.

July 12 and 13, at Spalding.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B. K. A.

July 18, 19, and 20, at Doncaster.—Bee and Honey Show in connection with the Yorks Agricultural Society's Show. **Entries closed.**

July 23.—Caergwrle Castle Flower Show. Open class for six 1-lb. jars of extracted honey. Schedules from H. S. Davies, Abermorddu, Wrexham.

July 24 and 25, at Stafford.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show. Open classes for Sections, Extracted Honey, and Bee Appliances. Schedules from Ellis E. Crisp, Sec., S.B.K.A., 8, Jesson-street, Coventry. **Entries close June 30.**

July 26, at Loughton, Essex.—Honey Show in connection with the Loughton Horticultural Society's Annual Exhibition. Five classes for honey and one for wax, open to the county of Essex. Entry fee 6d. Schedules from G. F. O'Fflahertie, Monghyr Cottage, Loughton. **Entries close July 20.**

July 27, at Driffield, Yorks.—Driffield and District B.K.A. Show, in conjunction with the Driffield Agricultural Society. Eight open honey classes. Schedules from W. E. Richardson, 3, Brierley-road, Driffield. **Entries close July 19.**

August 1, at Henbury, near Bristol.—Annual Show of the Henbury District Bee-keepers' Association. Open classes with liberal prizes for "collection," twelve 1-lb. sections, twelve 1-lb. glass jars, single 1-lb. section, 1-lb. jar, wax, granulated honey, &c. Schedules from C. A. Newman, Hon. Sec., Henbury. **Entries close July 24.**

August 2, in the Grounds of Compton House.—Annual Show of the Yetminster District B.K.A. Open classes for single 1-lb. section and also for 1-lb. glass jar of extracted honey (entry free). Schedules from G. Leeding, Hon. Sec., B.K.A., Bradford Abbas, Sherborne, Dorset. **Entries close July 29.**

August 2, at Market Drayton.—Honey Show in connection with the Market Drayton Horticultural Society. Two open classes, twelve 1-lb. sections and twelve 1-lb. glass jars run honey. Prizes in each class, 15s., 10s., 5s. Schedules from W. Woodburn, Secretary, Market Drayton. **Entries close July 28.**

August 2, at Abergwili.—Honey Show in connection with the Horticultural Exhibition. Open class for single 1 lb. jar Prizes 10s., 7s. 6d., 5s., 2s. 6d. (no entry fee). Exhibits to reach the Secretary not later than July 31. Schedules from J. Jones, 3, Gifre-gardens, Abergwili, R S.O.

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from H. Tolson, Park House, St. Thomas, Exeter. **Entries close July 28.**

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead. **Entries close July 19.**

Bank Holiday, August 6, at Beddington Park, near Croydon. Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday), **at Lichfield.**—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Two classes for members of the Staffs B.K.A. Open classes for dark honey and wax, and two for cottagers. Two medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations in Beetent of Worcester C.C. by Rev. E. Davenport.

August 6 (Bank Holiday), **at Melton Constable Park.**—North Norfolk B.K.A. Annual Honey Show in connection with the Horticultural Exhibition Schedules from Hon. Sec., C. J. Cooke, Edgefield, Melton Constable. **Entries close July 28.**

August 6, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Marlow, Bucks. Annual Show in connection with the Marlow Horticultural Society, under the auspices of the Berks B.K.A. Bees, hives, and appliances; honey, &c. Twelve open classes. Liberal prizes. Schedules from A. D. Cripps, High-street, Marlow. **Entries close August 4.**

August 8, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1 lb. section and single 1 lb. jar, with no entry fee). Schedules from J. P. Inkpen, Neston, Neston, Corsham, Wilts.

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close August 8.**

August 29, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and for appliances and wax, also for single jar and section, with free entry. Twenty other classes, for Scotland only. Liberal prizes. Schedules from Jas. Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes." Liberal prizes and medals. Twenty classes in all. Schedules from James Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** Schedules now ready. (See advertisement on p. vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

KENNETH O. MACLEOD (Shandon, N.B).—*Bee-Flowers.*—1. We have no knowledge of *Menziesia polifolia alba* as a honey-producing plant. Perhaps some gardening reader may be able to say if bees visit it freely in other places than your own. 2. Regarding the "glossy black bee" you refer to as working on the plant, we would like to see a specimen before offering an opinion.

"BLACKIE" (Kenilworth).—*Bees not Working in Surplus Chambers.*—1 In accounting for the greater readiness with which the bees began work in racks of sections on hives located in a bee-house facing south compared with those standing outside and facing east or north-east, the protection and warmth afforded by the bee-house would, no doubt, contribute to the result. But when weather is favourable and honey plentiful, the stocks, if of equal strength, will work as hard outside as in. Weather and forage are more important factors than location. 2. We see no reason to doubt the genuineness of wax in samples of foundation sent.

QUERIST (Guildford).—*Bees not Working in Sections.*—A hive in which the bees cover no more than four frames in the last week of June must have something radically wrong with it, especially when you felt warranted in giving a rack of sections early in the season. Are you sure the stock has not swarmed unperceived? We should examine the frames, and if there are eggs and brood in the combs the queen will be there, but in case the "five frames full of sealed honey" tend to limit the brood nest, three of them might with advantage be removed and replaced with full sheets of foundation.

HEXAGON (Criccieth).—*Superfluous Drones.*—1. Before the days of comb-foundation it was the common practice to use drone-traps for getting rid of superfluous drones. Now, however, it is done by limiting their production by the use of full sheets of worker-cell foundation. Beyond consuming food they take no share in storing, the drones will do no harm and help a little in swarmed hives by keeping the brood warm. 2. The use of wide or narrow metal ends in shallow-frames for extracting is entirely a matter of preference on the bee-keeper's part. Try a few of each, and see which you prefer. Personally, we like the narrow ones.

CYMRO (Penybont).—*Moving Bees to Heather.*—1. The sprigs of heather sent are the *Erica tetralix*, or cross-leaved heath. It grows only on damp bog land—such as your "1,000 acres of bog"—and is of no practical use to bee-keepers because of the bloom yielding no honey. You will save loss and disappointment by giving up the proposed journey to the heather mentioned.

HEDLEY V. FIELDING (Dublin).—*Distance Bees Fly in Foraging.*—1. It is generally accepted that a radius of about two miles covers the distance in which bees work from their hives. 2. A strong stock of bees will always have a number of "fanners" at work about entrance with the object of causing free ventilation of the hive interior. 3. It was quite right to give a frame of foundation under the circumstances named.

S. BARFORD (Luton).—*Swarm not Working Satisfactorily.*—1. As the swarm had been hived less than a week when you wrote, it is too soon to feel disappointed at the amount of work done. It is often necessary to feed swarms for several days after hiving, and if yours have built out some combs and stored "above 3 lb. of honey," they have by no means done badly. The restlessness you complain of will soon disappear if the queen is breeding all right. 2. Our office address appears on front page of every issue.

J. F. (Mountmellic).—*Allowing Bees to Transfer Themselves.*—To place a super-clearer between frame-hive and skep when setting the latter in position for transferring, would simply stultify the whole operation. The bees and queen must have free access to both skep and frame-hive below, and be allowed to transfer their brood-chamber into the lower hive when it suits themselves. By following carefully the directions given in new edition of "Guide Book"—and some time ago in the B.B.J.—all will go well; but if any departure is made from those directions we cannot promise success.

J. CRAPP (St. Columb).—*Suspected Comb.*—The comb sent contains no trace of brood at all; nothing worse than wholesome pollen.

GEORGE WEIR (Carlisle).—Foul brood is just developing in comb sent, but there is no mistake as to the disease being present; therefore, the steps you have taken to overcome the trouble are correct and most timely.

G. M. (Whittingham).—Read reply to George Weir, which exactly meets your case.

*** *Owing to pressure on our space we are compelled to hold over several Letters and Queries till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, ½-plate CAMERA. Exchange Bees, Hives, or Appliances. GARNER, Dyke, Bourne. 977

HONEY, new extracted, £2 16s. per cwt. OWEN BROWNING, Kingsomborne, Stockbridge, Hants. 979

SWARMS with reliable Queens, for building up, or uniting to queenless stocks, 5s. 6d. Cases free. ALSFORD, Expert, Blandford. 978

FIRST-CLASS SECTIONS, 5s. doz. Light extracted HONEY £3 cwt. COCKS, Prospect House, Haddenham, Bucks. 976

(Prepaids continued on page viii.)

Editorial, Notices, &c.

"ROYAL" SHOW AT YORK.

(*Report continued from page* 252.)

The 2nd prize in Class 369 went to Mr. W. P. Meadows for a non-swarming hive almost identical with the one he took 1st at Birmingham in 1898. It was fully described on page 252 of our issue for that year, the main feature being the utilisation of the deep stand for holding a box of shallow frames which can be pushed in from the rear when giving room to prevent swarming, and withdrawn for use as a surplus-chamber when the bees have started comb-building in it. Mr. Meadows' hive has the special merit—which he claims as original—of having so arranged the shallow-frame box that, when placed below, its top bars are level with the hive-entrance and form the floor-board. This, of course, enables the bees to extend the cluster downward through the frame-spaces, and saves them labour in travelling upward to reach the brood and surplus chambers. The space below brood-nest also holds a rapid feeder for use in autumn when required. Mr. Meadows secured the 3rd prize for a hive similar in type to the above but lower in price, owing to being furnished with fewer "extras."

Class 370. *Inexpensive Frame-Hive for Cottagers' Use* (10 entries).—This was also an excellent class throughout, and goes to prove that for 10s. 6d. a hive, simple but efficient, may be had at a price within reach of all. Mr. Meadows here secured 1st for his well-known cottagers' hive with arrangements for going to the moors, and 2nd for an exceedingly cheap and useful little hive quite complete for 8s. 6d. Jas. Lee & Son took third with a very good hive, price 10s. 6d., having an improved stand and floor-board combined, which, while raising the hive well above the ground, is free from the objection of insecure legs. By screwing a good-sized iron "screw-eye" in the lower edge of the floor-board joists, the stand is also kept well up out of wet or damp ground, and thus avoids rotting. Messrs. Lanaway & Son got a h.c. for their well-known 10s. 6d. hive, which is very complete and well made.

Class 371. *Honey Extractor* (5 entries).—Though meeting with some opposition in this class Mr. Meadows still held his ground, taking 1st with the "Cowan" reversible, and 2nd with the "Guinea," which latter, however, is rather curiously priced at £1 3s. 6d., the extra 2s. 6d. being good value in the shape of "improvements" in the machine.

Class 372. *Useful Inventions Connected with Bee-keeping* (6 entries).—Though not a large class, we were glad to note a few really useful items of a practical nature which have, we think, "come to stay." The Rev. W. Head secured 1st prize with the very useful wax-moulding appliance described in B.B.J. of February 1 last (page 43). The sketch there clearly describes the appliance, and how cakes of wax weighing 2 oz., 4 oz., 8 oz., and 16 oz. respectively may be moulded in the same dish by altering the tin divisions. The 2nd prize went to Jas. Lee & Son for their new cardboard section-case, which, it is no reflection on the first award to say, was well worth an equal 1st in view of the general "usefulness" of Messrs. Lee's invention. We have long desired to see a perfect section-case, and think this desideratum has now been nearly met in the "case" under notice. Anyway, its value will soon be tested, and we shall be surprised if this is not destined to become *the* section-case of the future.

Of the eleven honey classes (373 to 383 both inclusive), it is hardly necessary to detail each at any length, knowing how severely the honey section of the "Royal" Show is handicapped by the early date on which it is held. With this excuse for brevity, it may be said that for a show held in June an exceedingly good display was made, some of the classes being well filled and the prizes well earned. Honey of the current year was certainly shown, but the competition could not in any sense be termed "keen," the ten entries for 1-lb. sections only receiving two awards, Mr. W. Woodley being easily 1st and Mr. R. Brown 3rd (no second prize awarded).

Class 374.—*1-lb. Sections of any year* had only three entries; but for heather sections (any year) there were nine—very fair in quality, too—and three prizes awarded, as stated in our previous notice.

In the class for three shallow frames of 1900 honey there was practically no competition, Mr. Wells carrying off all three prizes.

For the first time a class was this year introduced for medium-coloured honey, in order that full justice might be done to those whose districts yield no light-coloured honey. We had thus separate classes for light, medium, and dark coloured honeys other than heather; the entries being 8, 7, and 4 respectively in the order named:—

Class 380, for *Extracted Honey of any year* (11 entries), was about the strongest class in the honey section, some excellent samples being staged. *Heather-honey* (12 entries) was also a good class, the winning exhibits being all good.

Class 382, *Granulated Honey* (13 entries), showed up well, the winners especially, and we thought a few minor awards might well have been added to the list of prizes.

The only other honey class was that for *Display or Trophy of Honey in any form* (5 entries). Mr. Dixon's exhibit was a good 1st, being well set up and including some very interesting items. The 2nd went to a small but neat display by Messrs. Lee & Son.

Class 386, *Honey Vinegar*, did not produce much competition, while *Mead* brought only one exhibit and no award.

In the two remaining classes, viz., for

instructive exhibits of a practical and of a scientific nature, only two exhibits were shown in the former and one in the latter, but the winning ones were good.

Mr. R. A. H. Grimshaw, Leeds, and Mr. T. D. Schofield, Alderley Edge, judged the exhibits, and Mr. W. Broughton Carr—who officiated as Steward of the Bee-Department—also conducted an examination of candidates for the 3rd class Certificate of the B.B.K.A.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4022.] We have now entered the month of July, and bee-keepers will no doubt hope that it will prove better than June from their point of view. All through June the weather was very unsettled in character, quite different to that of recent years. So far as this district is concerned it was a poor month for honey. Very strong colonies with me have stored a fair amount of surplus, taking advantage of every sunny hour; but with a good number of orders for swarms on hand a portion of my hives in both apiaries were not supered, and in consequence we have had more swarms than usual. This has, I hear, been the experience of some who still keep their bees in skeps. Swarms have also been plentiful from frame-hives which were supered early in the summer, so that we may call 1900 a "swarming season" compared with recent years. One bee-keeper tells me that with him it has been "all swarms and no honey," another declaring that his sections were many of them spoilt by having drone brood in them. Farmers are badly wanting warm, dry weather before they can gather their hay-crops; some cut a fortnight ago still lies in the fields and with a falling barometer is likely to remain there for the present. The rains have, however, wonderfully improved the aftermath, and where the fields have even a sprinkling of white clover the blossoms are very plentiful, so that with better weather the season may be prolonged, and we may finish up more satisfactorily than we dare hope at present.

The super-clearer, with the "Porter Bee Escape," still holds the field; it is a grand invention, conducing to more comfort in manipulating than any other appliance now in use; though in my opinion the carbolised cloth follows very close to the "clearer" in effectiveness; but the two in conjunction add considerably to the pleasure of bee-keeping. In saying this much, I do not forget how very necessary and useful is the good old smoker, which latter is a *sine quâ non* in the apiary, and should always be at hand alight and ready for any emergency.

Bees Hanging Out.—I have been asked by a correspondent to advise him through the JOURNAL how to prevent this. It is, however, rather a difficult task at times, such as when the weather is warm and the hive teeming with bees. Even with abundant supering-room large clusters of bees will still get outside and hang there; these are probably bees too young to forage in the fields, and when not required for nursing or to keep the brood warm (the temperature doing that to a great extent) these young bees are ordered to get out of the way of the multitude of field-workers. When old enough they no doubt start as fielders, but others still hatching out keep up the quantity of hangers out still visible. I have had two or three hives this year, with three boxes of shallow frames, and three racks on, yet with a good-sized cluster of bees still hanging outside.

Those friends who have used the new non-swarming arrangement in their apiaries this season, side by side with hives without it, may be able to solve the question as to its utility. The same may also be said of "swarm-catchers." It is facts obtained by practical bee-keepers that we require for our guidance in the future, and not "fads," which read well in print and sound well in theory.

Price of Honey in 1900.—Customers are inquiring for new honey and for prices, and I have been asked by other bee-keepers having honey for sale, What about prices this year? I have replied that, owing to the continued unsettled state of the weather, the quantity must be much less than last year, therefore I should consider that if any change is made from last season, the prices should rule higher. Yet what do we find in the advertisement columns of June 28 B.J.?—"First-class sections, 5s. per dozen." It must surely be a mistake to offer early sections at that miserably low price. —W. WOODLEY, *Beedon, Newbury.*

[5s. was a printer's error; it should have been 8s. (see advt.).—EDS.]

A UNIQUE EXPERIENCE.

[4023.] On Wednesday the 20th ult. I was sent for by a lady bee-keeper to hive a swarm that had issued from one of her hives. The stock in question had already swarmed, and (as it was desired to preserve its one year old queen and avoid swarming) the bees were at the time returned to the parent hive after removal of queen-cells. As in the first instance I again ran the bees in at the entrance, and was very particular in watching for the queen so as to make sure that she entered the

hive, which I plainly saw her do. On Saturday (June 23) having occasion to pay another visit to the same apiary I looked again at the hive to see if all had gone on right with the returned swarm, and was surprised to notice a small lot of bees outside on one side of the porch; knowing that the bees were not cramped for room I looked closely at the bunch of bees referred to, and observed a good many wax-scales had dropped from them as they hung clustered. I also noticed that the bees were apparently on bad terms with the outsiders, and repelled any attempt of the latter to enter their hive. On dispersing the cluster a little with a few puffs from my smoker, I laid bare a piece of newly-built comb as large as the palm of my hand, and then saw a fine young queen, which I quietly captured. Was it not a very strange thing for a young queen to come out from the hive after the swarm was returned, and form a new and independent colony outside in this way? I may say the parent hive is working well in sections and has done well since I returned the swarm to it.—W. HULANCE, *Alderley, Glos, June* 25.

[If we could be quite certain that the "cluster" in question was not a second swarm, or cast, from another hive that had taken up its quarters in the position referred to, we should consider it a very unusual occurrence indeed.—EDS.]

NEW WAX-MOULD.

[4024.] As several inquiries have been made from me about the above, may I ask the attention of would-be purchasers to an advertisement in your columns giving particulars of same. As considerable care in measurements needs to be taken in the making of the mould, it will be more satisfactory to all parties if buyers will order them where they are certain of getting the correct article. I would, if possible, save *them* from inconveniences I have personally experienced.—W. H., *Brilley, Herefordshire.*

CLAIMING STRAY SWARMS.

WILFUL DESTRUCTION OF BEES.

[4025.] On June 27 a swarm from one of my hives clustered on the offshoot of a plum tree in my next door neighbour's garden. The branch on which the bees settled was about 3 ft. from the ground, and while I was preparing to hive them the daughter of the person to whom the garden belongs (a member of the Salvation Army) deliberately got some sacking and set it on fire directly under the cluster of bees. In a short time, finding that they were not all dead, she fetched a pail of hot water and deliberately threw it over the crawling bees. I was standing on my side of the fence, and of course unable to prevent the wanton destruction of the bees without trespassing, and the young woman said she "should like to burn the whole lot of my bees." On the following day I obtained a summons against her, and now learn that at a meeting of the "soldiers" of the Fakenham Salvation Army Corps they talk of raising the money to procure legal advice for the defendant. Owing to a bodily infirmity, which prevents me from following my trade, I have no other means of providing for my wife and family beyond what I make by my bees and a few fowls. The case is down for hearing on July 18 at the Court House, Walsingham, and I thought that some brother bee-keepers, who are able, might be willing to keep in combine to providing me with legal advice and so earn the thanks of W. GEAVES, *Sculthorpe, Fakenham, Norfolk, June* 29.

[We have no doubt that many readers, along with ourselves, will heartily sympathise with our correspondent under the circumstances detailed above, and, if the facts are proved to be as stated, there should be no doubt as to the verdict. But, assuming that the case will be dealt with by the County Court Judge—as a claim for the value of the destroyed swarm—it should hardly require further "legal advice" to secure a favourable verdict. In any case, it would, we think, be well to await the result before appealing to bee-keepers for pecuniary assistance in making up a loss not yet incurred. We say this in view of the fact that, if a clear case is made out, the Judge would probably award value for the bees, and payment for loss of time in attending the Court.—EDS.]

POINTS FOR BEGINNERS.

[4026.] Knowing that you are always ready to place your knowledge and experience at the service of beginners in the "craft," I venture to ask you to give me some information through the columns of the B.J. The points I should like cleared up are enumerated below. I read the "Guide Book" for the first time several years ago, and after seeing a bee-keeper perform some routine work with a frame-hive I some years ago hived three swarms for "skeppists" who were nervous over bee-work. That was the extent of my bee experience until July, 1899, when I purchased a swarm, and the honey-flow being then practically over the bees were kept at work drawing out foundation. I call this hive No. 1. In the following month I drove two skeps, the bees of which were united and hived on combs worked out as above, forming hive No. 2. Both lots came out strong in the spring of present year.

Both hives swarmed in June (No. 2 on the 10th and No. 1 on the 11th), each having on a rack of partly-filled sections at the time. Being away from home a neighbour hived the swarms for me, but did not disturb the sections. I returned on the 23rd, and found the bees still at work in the sections, and as nearly a fortnight had elapsed I presumed no second

swarms—or casts—would issue. I was wrong, however, for No. 2 sent off a second swarm on the morning of the 27th (seventeen days after the first swarm), and No. 1 immediately followed suit, but the latter swarm returned of its own accord. As my original queens—now heading the respective first swarms — were presumably "old" I thought the way was clear to secure new queens for each, and prevent further "casts" by making two nucleus colonies and giving to each one of the queen-cells which—as swarms had just come off—I expected to find in both hives. I patted myself on the back for having conceived such a brilliant idea. It seemed so easy, too. But, alas! the schemes of novices "gang aft agley."

However to proceed: On removing sections and examining the frames of No. 2 I found no *sealed* queen-cells, but at least a dozen empty ones, not *torn* open but looking as if the occupants had emerged naturally. The remaining brilliancy of my scheme disappeared when I also failed to find either eggs or unsealed brood. However, I removed three frames of bees (the queen I knew was with the swarm waiting to be returned), put them in a nucleus hive, and then sat down to "think" (no doubt I ought to have thought first); anyway, the conclusions I arrived at were (1) that the queen-cells were empty because the swarm had from some cause been delayed, and that the young queens had emerged during the interim; (2) that the absence of unsealed brood was of course due to the fact that the new queen had not commenced ovipositing. My first point is—were these conclusions correct?

I decided, however, not to give up my queen-rearing scheme, but to proceed with nucleus No. 2, and if necessary give each nucleus a frame of eggs and brood, and let them build queen-cells for themselves.

I then opened hive No. 1, and found no queen-cells, no unsealed brood, no eggs! So I removed three frames for my second nucleus (having first found the queen), and added the bees from a fourth by shaking them off. In doing this, however, I saw two sealed queen-cells which had escaped observation whilst covered with bees. I also discovered an actual young queen, almost buried head first in a cell, apparently gorging honey. She was evidently a very young one, so I placed her in nucleus No. 2, and gave the queen-cells on the comb to nucleus No. 1. This leads me to point No. 2. Is a queen pupa (presumably within a day or two of emerging) as likely to be injured by the shaking of the frame as would a queen larva? The "Guide Book" says the "young larvæ" might be injured by shaking. I would also ask: 3. If the queen actually emerges, will it be safe to assume that it would have no ill effect on her subsequent fertility? Both nuclei were now complete for the present, and as it was too late to do any more that evening, I returned the swarm to No. 2, and made sure that the reigning queen was still in No. 1 before covering up.

During the evening I turned over in my mind the problems which had presented themselves during the day, and I was more perplexed than before. Supposing that the second swarm had been hived in a separate hive instead of being returned, and bearing in mind that after the swarm had issued no brood was left in the hive, and that the queen was presumably virgin, I could not understand why the bees should not issue with her when she took her marriage flight, as I always understood would happen in the case of a virgin queen in a nucleus hive unfurnished with young brood, and it makes me ask—(4) In what way do the two cases differ? Again, assuming that all adult bees—put along with the younger ones in a nucleus hive—return to the parent stock, would there not be a large proportion of young bees *unable* to issue with the young queen? I was so much struck with the similarity of conditions in nucleus and parent stock after the second swarm had issued that I finally decided *not* to give the nucleus any brood, but to carefully note what happened. Next day (June 28) was warm and bright, and the queen which I had put in No. 2 nucleus issued five or six times and flew round the garden, returning to the hive after each flight. The bees did not seem to notice her. Yesterday (July 1) the nucleus was still well filled with bees, but the day being cold I did not examine frames, nor have I seen the queen come out again. As to No. 1 nucleus, not having examined the frames I cannot say if the queens have emerged. 5. Is there anything abnormal to account for the bees in No. 2 nucleus remaining in the hive instead of accompanying the queen?

Finally, since returning the swarm to No. 2 hive, I have at intervals found no less than eight young queens dead outside the hive. I come to the question. 6 Is this an unusually high number? And were these young queens killed by the queen I returned with the swarm, or is it more likely they were killed by each other?

I must plead inexperience, and my great interest in the subject, for writing at such length.—"PEDRO," *Petersfield, July* 2.

[The above contains so much that is interesting and useful, that but for the exigencies of space we could write a column or two of reply. We must, however, confine ourselves to a brief reply to each "point" as follows:—1. Quite correct. 2. No; the danger arises when in the larval condition. 3 No ill effect whatever. 4. Very few bees as a rule issue with the queen on her marital trip, but at times when the number is small all go along with her; this is the danger to guard against. 5. No. 6. No; sometimes a dozen or more young queens are cast out. It is also generally supposed that the strongest queen kills all the rest, but nothing more definite can be said.—EDS.]

HOMES OF THE HONEY BEE.

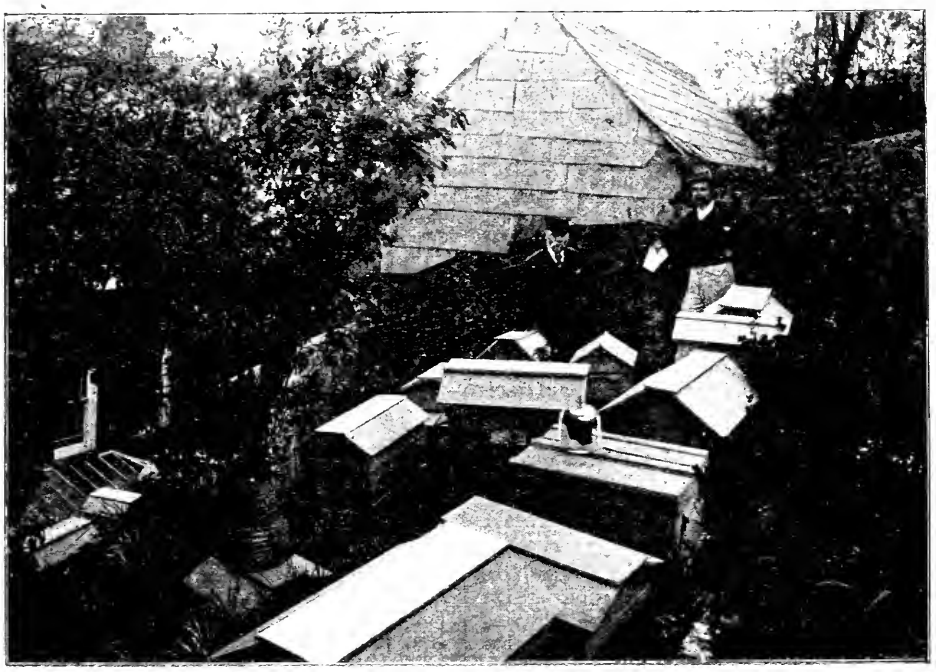
THE APIARIES OF OUR READERS.

The rather quaint-looking apiary which forms our bee-garden picture this week is that of Mr. Tonking, a very old reader of the B.J.; and, beyond welcoming its appearance in our pages, we need add nothing to the full notes written at our request, as follows :—

"I commenced bee-keeping early in the seventies, by purchasing a skep of the ordinary English black bees. After increasing stocks for a few years, and also improving my knowledge, both by practical experience from the bees and theory by reading the BEE JOURNAL soon after its first issue in 1873, I adopted a more modern hive by using Messrs. Neighbour's well-known round straw hive with flat top fitted with slides for supering. Some of these I still use for bell-glasses, square boxes, &c., and from these supers I can get liquid honey of first quality. My first bar-frame hive was got after visiting one of our bee shows in connection with the Cornwall Agricultural Society's Show, and now, you will observe, I have a fair number of them.

"A few years afterwards I got a Ligurian queen and introduced her into one of the colonies, and although that was early in the eighties, one can often see well-marked bees of the Ligurian strain even now. I think the bees, since the introduction of new blood, have been more vigorous and unusually quiet for handling.

"This district, although favoured with mild and early springs, doesn't produce early swarms. It may surprise you when I say that this year, on June 17, I hived the first swarm of the season. Sunday, too, is the favourite day, even in Cornwall. I do all I can to prevent swarming, only having about a dozen in four years. All my stocks were in good form after the past winter, and most of them began filling sections and supers in May, but the principal source of surplus is from the clover and limes. Towards the end of the season, however, in August, a pleasant flavour is imparted to the honey then gathered from the wild thyme. My worst year was in 1879, when the continued wet prevented the bees from storing enough to feed themselves. However, in our good seasons we bee-keepers generally forget the bad, especially when a single stock yields as many as 134 1-lb. sections of surplus, and yet retain enough to carry it through the winter. This was done by one of my hives in 1885. I work principally for comb-honey, and rarely extract, as it means too much labour. The Jubilee year of 1887 (although so good in general) was too dry for this neighbourhood, so the bees were only able to gather a small amount of surplus. The season of 1898 was above the average, and, strange to say, the honey here showed no sign of honey-dew. You will be pleased to hear that both honey-dew and foul brood are unknown in my apiary. The latter, no doubt, is often encouraged by



MR. P. TONKIN'S APIARY, PADSTOW, NORTH CORNWALL.

neglect of the necessary ventilation and want of attention to general cleanliness about the hives.

"Should any bee-keeping tourist chance to be visiting our rock-bound coast, I shall be always pleased to welcome him and have a chat over our mutual hobby. The present season so far has been very favourable for this part; the past showery week has left the bee-pasturage in good form, so that with colonies overflowing with bees all that is now necessary is a high temperature to produce the honey. My best wish for all bee-keepers is that the year 1900 will be one of the best in their record of special seasons."

Queries and Replies.

[2441.] *The Prevention of Swarming.*—Perhaps you will kindly help a beginner with your valuable advice. I began bee-keeping on June 13, 1898, with a swarm in a frame-hive. I procured Mr. Cowan's "Guide Book," and started taking the B.B.J. I am a doctor by profession, and do not aim at producing more honey than we require for home use. On May 30, 1899, I was in the act of setting on a rack of 1-lb. sections on my hive when I noticed an extraordinary commotion among the bees, and one of our servants informed me that they were about to swarm. This they did, and from that swarm I took nearly 50 lb. of honey; so I started 1900 with two hives. To prevent swarming I supered hive No. 1 on May 8, and did the same to No. 2 on May 30. It was all in vain, however, for both hives swarmed on June 3, within an hour of each other. I had only one hive ready, thinking that No. 1, at any rate, would not swarm (the bees were working away merrily in the super), so I united the two swarms, leaving the queens to fight it out. The bees in that hive are working away hard. I thus have three hives, and may get some 56 lb. of honey again this year. But it would suit me better to get that amount from one hive, and I am led to ask: 1. What did I do wrong? This year I certainly gave hive No. 1 room "in advance of the bees' requirements." Is it that I feed the bees too much? I always give them candy in winter, but this spring I gave them no syrup, but uncapped, as they had stores enough over to do so. 2. What is the principle of the non-swarming hives?—FRUSTRA, *Warwicks.*

REPLY.—1. We do not gather that anything done was wrong, unless the hive was not well ventilated. Swarming cannot be absolutely stopped by giving room; it only tends that way, and in experienced hands is usually effective. Anyway we should expect to see the double swarm yield well this season, and from the three hives you might easily get over 1 cwt. of honey. 2. The principle is to give room below brood-chamber by adding a box of shallow frames, and when the bees have started work in the latter remove the box, bees and all, and set it above, replacing it with a second similar chamber below.

[2442.] *The Transformation of Sex in Bees.*—Having recently bought a colony of bees, I am deep in the study of these wonderful creatures. An esteemed friend of mine, who has been a bee-keeper for many years, tells me he thinks they can make and unmake sex at will. This was a point which I felt inclined to dispute, but my friend stuck to his guns, and so to settle the point I proposed to refer the question to you, Sir, and I trust you will kindly endeavour, through the medium of your valuable JOURNAL, to enlighten our darkness by answering, if possible, the following queries:—1. Can bees by feeding transform drones into worker-bees? 2. Can workers be transformed into drones by the same or any other process? 3. Are the eggs oviposited by the queen all the same, or do they contain the germs of sex?—ROBERT AITCHISON, *Corbridge-on-Tyne, June* 26.

REPLY.—1. No. 2. No. 3. Eggs as contained in the ovaries of the queen are all alike, but in its way through the oviduct the egg passes a small globular sac, which latter contains the spermatozoa derived from the drone, and when fertilised therefrom the eggs produce worker bees. When specially treated by the bees these same eggs also produce queens. All eggs not so fertilised produce only drones.

[2443.] *Supering Swarmed Hives.*—I shall be glad to know, if possible, the reason for my bees not taking to a surplus-chamber containing shallow frames. In the last week of May this hive sent out a swarm which weighed from 5 lb. to 6 lb. A few days afterwards I put on a box of shallow frames and a rack of sections, with queen-excluder zinc on top of brood-chamber, and cannot understand the bees not taking to same, as it is over a month ago since they swarmed.—ANXIOUS ONE, *Wimbledon, June* 28.

REPLY.—A little experience in bee-keeping will make clear the fact that bees do not often take to surplus-chambers at all after sending out a 6-lb. swarm, for the obvious reason that during the following three weeks bees are hatching out in thousands daily, and empty cells are, in consequence, available for storing honey until the young queen is mated and begins to lay. In view of this, the experienced bee-keeper rarely expects to secure surplus honey from swarmed hives unless the season is an exceptionally good one. As the saying goes, "You cannot have honey and swarms from a hive in one year."

[2444.] *Painting Insides of Hives.*—1. Is there any objection to painting the insides of

hives? I have thought it would be a good thing to give the insides of hives two coats of paint, which would fill up all joints and crannies and leave no harbourage for enemies. In the unfortunate event of foul brood occurring, the paint could be burned off with a painter's spirit lamp and the hive carbolised and repainted. Would this be a good plan to follow? *Ventilating Hives.*—2. Would it be a good thing to make a hole—say, 4 in. square—in floor-boards, nail perforated zinc on the top side, and fix a shutter below, which latter could hang by the hinges in the summer or on a hot day, and be closed by a button in the winter or at night?—W. J. M., *Newcastle, co. Down, June* 28.

REPLY.—1. Painting hives after infection, as stated, has been recommended in our pages many times as a simple, ready plan of securing more or less immunity from disease. 2. This idea is not new, and though sounding well in theory, it is found in practice that, on the whole, the desired end is better served by raising up hives from the floor-board when bees are oppressed by heat in summer.

[2445.] *Improving on the "Wells" System.*—I am thinking of making a hive next winter to work after the "Wells" system, only, instead of using a perforated dummy in centre of brood-chamber—as Mr. Wells does—I thought of having two queen-excluding dummies (fixed), spaced about 1 in. apart, so that the queens can in no way come in contact, while the worker bees can work together in brood chambers as one colony as well as in the supers. I think we should thus get the advantage of wintering them as one colony and still have the benefit of two queens. What is your opinion of it?—L. H., *New Forest.*

REPLY.—Without going into the "why and wherefore," our opinion is that your idea will not work out well. At the same time we will be very pleased to publish results if you will make a trial of the method proposed. You should, however, bear in mind that Mr. Wells uses a dropping floorboard and a movable dummy, while the above plan will need a non-lowering floor-board, and the queen-excluding dummies are fixtures.

[2446.] *Bee-Parasites.*—I am sending you by post a box containing two bees and upon which were found small red insects. I have no doubt the insects will have left the bees by the time the box reaches you, as bees were killed before posting. I should feel obliged if you would let me know through the BEE JOURNAL what these small insects are, and whether they are in any way harmful to the bees.—HOLDEN BROTHERS, *Croix (Nord), France, June* 25.

REPLY.—So far from being missing when box was received, they were still on the dead bees and quite lively. The parasite is the *Braula cœca*, or blind louse, often mentioned in our pages, and described in new edition of "Guide Book," with illustration from life.

[2447.] *Bees Transferring Themselves.*—The above operation is referred to in B.B.J., June 28. Will you be good enough to explain it more fully, as I wish to transfer the bees from skeps into bar-frame hives? I bought a stock in a skep last autumn, and have had two swarms from it on the following dates, May 28 and June 18. Now I notice that the bees in the skep do not work so well as the swarms. They generally loiter about its entrance, but there are a great many drones flying from it. Is there anything wrong with them?—J. B. W. (a Beginner), *Lydan.*

REPLY.—It is quite natural for swarms to work better than the parent hives from which they have issued, seeing that the latter are almost wholly peopled by young bees, which have hardly begun to perform field work at all.

[2448.] *Early Mating Flights of Queens.*—From one of my hives a young queen came out for marital purposes at 10.35 a.m. It was by no means a hot morning and there were no drones out that I could see, and very few bees working. Is not this unusually early? The queen in question was fertilised during that day I believe, but not at the time I have specifically referred to.—C. H. L., *Skipton.*

REPLY.—As a rule the young queen leaves the hive for her marital flight about the time when drones make what is called a "turn-out" viz., about mid-day, but it is by no means uncommon for them to take several trips abroad before the desired end is attained, and we have often known them to go out as early as stated when weather is fine.

REVIEWS OF FOREIGN BEE PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.J.S., F.E.S., ETC.

Le Rucher Belge (Belgium).—"The Apicultural Society of the Basin of the Meuse" insures its members against loss arising from foul brood; the annual subscription of 3 fr. 10 c. (about 2s. 6d.) to *Le Rucher Belge* entitles them to this privilege. The committee are exceedingly anxious to annihilate the disease, and hope to work towards this end by indemnifying bee-keepers who destroy their infected colonies.

L'Apiculteur (France).—A bee-keeper in the Ardennes noticed that during last year the plant *Eryngium planum* attracted vast numbers of bees, and he strongly recommends it to the notice of bee-keepers in general. It is said to grow well on sandy soil, and its large, long-stalked leaves and numerous bright *blue* flowers are very effective and ornamental. The *Eryngium* can be propagated by seeds or by division of the roots, which throw out numerous offshoots. It flowers from beginning of June until end of September.

L'Apiculteur.—*Apis mellifica*, which was introduced into Australia in 1862, prospers well there, thanks to the abundance of honey-

bearing plants and also probably to the fact that many of their enemies of the old continent have not been transported into the southern lands. Nevertheless, Mr. Walter Froggatt, Government Entomologist at Sydney, has discovered a fact which may prove serious to apiculture.

A small Lamellicorn beetle, very common in Australia, *Phyllotocus macleayi* (Fischer), about 8 mm. long, which until of late lived exclusively in the flowers of certain shrubs, chiefly those of the *Angophora* and the *Leptospernium*, in the last two years has taken to penetrating into hives, finding it more convenient to devour the ready-made honey of the bees. In the evening they commit their ravages. A bee-keeper reports killing nine quarts (?) in three nights by placing among the hives vessels of sugared water in which they drowned themselves.

In some parts of France the *Cetonia cardui* (one of the rose-beetles) tries to penetrate into hives, but its great size renders it less dangerous than *Phyllotocus*.

Die Deutsche Bienenzucht and others (Germany).—The annual congress and exhibition of the Austrian, Hungarian, and German bee-keepers this year takes place at Klagenfurt, in the Austrian Tyrol, during August.

Deutsche Bienenzucht (from Imkerschule).—Bees crossed once with the Caucasian species are said to work the red clover to great advantage, and distinguish themselves from others in this way.

Deutsche Bienenzucht (from Biencupflege).—A missionary from China reports the extraordinary case of the death of five persons through eating honey. Those who only tasted the honey—which had an unusual appearance—sickened, suffering from fearful pains in the stomach; others who had eaten more died within two to three days.

Bee Shows to Come.

July 11, at Buckden Towers.—Hunts B.K.A. Annual Show of Bees, Honey, &c. Open class for single 1-lb. bottle. C. N. White, Hon. Secretary, St. Neots.

July 12 and 13, at Spalding.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society.

July 18, 19, and 20, at Doncaster.—Bee and Honey Show in connection with the Yorks Agricultural Society's Show. **Entries closed.**

July 23.—Caergwrle Castle Flower Show. Open class for six 1-lb. jars of extracted honey. Schedules from H. S. Davies, Abermorddu, Wrexham.

July 24 and 25, at Stafford.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show.

July 26, at Loughton, Essex.—Honey Show in connection with the Loughton Horticultural Society's Annual Exhibition. Five classes for honey and one for wax, open to the county of Essex. Entry fee 6d. Schedules from G. F. O'Fflahertie, Monghyr Cottage, Loughton. **Entries close July 20.**

July 27, at Driffield, Yorks.—Driffield and District B.K.A. Show, in conjunction with the Driffield Agricultural Society. Eight open honey classes. Schedules from W. E. Richardson, 3, Bricrley-road, Driffield. **Entries close July 19.**

July 31, at Ely.—Honey Show in connection with the Cambs and Isle of Ely Agricultural Society. Several open classes. For schedules apply to C. N. White, St. Neots.

August 1, at Henbury, near Bristol.—Annual Show of the Henbury District Bee-keepers' Association. Open classes with liberal prizes for "collection," twelve 1-lb. sections, twelve 1-lb. glass jars, single 1-lb. section, 1-lb. jar, wax, granulated honey, &c. Schedules from C. A. Newman, Hon. Sec., Henbury. **Entries close July 24.**

August 2, in the Grounds of Compton House.—Annual Show of the Yetminster District B.K.A. Open classes for single 1-lb. section and also for 1-lb. glass jar of extracted honey (entry free). Schedules from G. Leeding, Hon. Sec., B.K.A., Bradford Abbas, Sherborne, Dorset. **Entries close July 29.**

August 2, at Market Drayton.—Honey Show in connection with the Market Drayton Horticultural Society. Two open classes, twelve 1-lb. sections and twelve 1-lb. glass jars run honey. Prizes in each class, 15s., 10s., 5s. Schedules from W. Woodburn, Secretary, Market Drayton. **Entries close July 28.**

August 2, at Abergwili.—Honey Show in connection with the Horticultural Exhibition. Open class for single 1 lb. jar Prizes 10s., 7s. 6d., 5s., 2s. 6d. (no entry fee). Exhibits to reach the Secretary not later than July 31. Schedules from J. Jones, 3, Gifre-gardens, Abergwili, R S.O.

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from H. Tolson, Park House, St. Thomas, Exeter. **Entries close July 28.**

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead. **Entries close July 19.**

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday), **at Lichfield.**—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Two classes for members of the Staffs B.K.A. Open classes for dark honey and wax, and two for cottagers. Two medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations in Bee-tent of Worcester C.C. by Rev. E. Davenport.

August 6 (Bank Holiday), **at Melton Constable Park.**—North Norfolk B.K.A. Annual Honey Show in connection with the Horticultural Exhibition. Schedules from Hon. Sec., C. J. Cooke, Edgefield, Melton Constable. **Entries close July 28.**

August 6, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Marlow, Bucks. Annual Show in connection with the Marlow Horticultural Society, under the auspices of the Berks B.K.A. Bees, hives, and appliances; honey, &c. Twelve open classes. Liberal prizes. Schedules from A. D. Cripps, High-street, Marlow. **Entries close August 4.**

August 8, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1 lb. section and single 1 lb. jar, with no entry fee). Schedules from J. P. Inkpen, Neston, Neston, Corsham, Wilts.

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close August 8.**

August 29, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and for appliances and wax, also for single jar and section, with free entry. Twenty other classes, for Scotland only. Liberal prizes. Schedules from Jas. Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes." Liberal prizes and medals. Twenty classes in all. Schedules from James Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** Schedules now ready. (See advertisement on p. vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers** (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Errata.—"Royal" Show.—In Class 382 the 2nd prize was won by E. C. R. White, Romsey; not Jno. Berry as reported.

"HERTS" (Baldock).—1. Sample of comb sent is not suitable for judging as to foul brood. You have merely sliced off a piece of the capped brood—less than half way to mid rib—instead of cutting the comb right through and leaving it intact, as from the hive. 2. Brood from a fertile worker produces drones only. 3. Bees sent are of the ordinary kind, slightly crossed with Carniolans.

B. CHAPMAN (Norwich).—*Uniting Second Swarms.*—1. It is not at all uncommon for two young queens to issue along with a second swarm; therefore, although the dead bee sent is a queen, it is quite possible there is still a queen with the swarm from which you removed that sent. 2. We suppose the swarm hived in a surplus-chamber and joined in the earlier one was placed over the one that came off on the 17th ult., in which case the two queens will eventually meet and fight for supremacy, but you should manage to get both lots into one brood chamber as soon as convenient. 3. Surplus queens may be preserved for ten days or more by securing them in a combed section containing honey along with a couple of dozen workers and keeping in a warm place.

A. S. (Londonderry).—*Dead Bees in Front of Hives.*—1. To find large numbers of dead bees on the ground in front of hives at this season usually denotes "robbing." 2. With regard to the cause of the mischief we can only say that it nearly always arises at a time when honey is scarce outside the hives, and there must be some special and specific reason for the bees to wage "a regular war at one hive" in the month of June. 3. We should examine the hive attacked and see if it is not weak and queenless, which would account for the trouble.

T. C. S. (Lincs).—*Bees in Skeps Damaged in Transit.*—We fear you would get no compensation from railway company under the circumstances. By first accepting delivery and afterwards transferring one lot to a frame-hive—while keeping the other in its damaged condition—after fixing it up to the best of your ability—it is too late to claim compensation, because the bees are now weak and "not likely to do any good this season." We regret delay in this reply, but it is utterly impossible for us to undertake correspondence by post.

F. SMITH (Nantwich).—*Bees Dying in Winter.*—The combs from which samples sent were cut are all unfit for using again, nor does an examination throw any clear light on the cause of the death of bees referred to. No. 1 has no trace of brood in cells, none of which are sealed over, and (save a little syrup-food in two or three cells) the comb, being choked with pollen, is rendered useless for breeding purposes. No. 2 shows faint, dried-up traces of foul brood in two or three cells, the rest of comb being perfectly empty. No. 4 sample is very old, and has not a trace of brood or a sealed cell in it; in fact, it contains nothing but hard, dried-up pollen. It is a mistake to suppose that the bees have "died out because of not being allowed to swarm"; nor could we, without inspection of the hives in which the bees died, give a reliable explanation of the cause of death. We should, however, strongly advise that the combs be either melted down for wax or burnt, the latter for preference.

H. WADE (Wansford, Northants).—*Bees "Balling" Queens.*—1. As the dead queen sent has obviously been "balled" it will be well to examine the combs of hive, below which she was found, to see if its queen is safe. In the latter case the queen balled will have been a stranger from some other hive. 2. The queen is of the ordinary or common variety.

(MRS) B. C. JACKSON (Milnthorpe).—*Suspected Foul Brood.*—There is no foul brood in comb. The sample is, however, unsuitable for the purpose of forming an accurate opinion on the condition of the hive, seeing that it contains only sealed drone-brood and a few very young larvæ in worker-cells.

R. U. B. (Rectory, Inistioge).—All three samples of comb are affected with foul brood. With regard to description of the

appearance of a diseased larva as given in "Guide Book," there is no difficulty in detecting foul brood when the affected larva has succumbed before the cell is sealed over. Your sample contained only very small larvæ along with that in sealed cells.

A. B. R. (Banff, N.B.).—There is foul brood of old standing in comb sent; it would therefore be disastrous to use them for the expected swarms. Hive the latter on foundation as proposed and burn the old combs out of harm's way. Beginners should use drastic measures with regard to foul brood in their initial stage of all bee work.

MILLER (Boston).—There are traces of foul brood of old standing in comb sent.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SPARE Strong STOCKS FOR SALE, cheap. Desiring to clear. SCHOOLMASTER, Littleport, Ely. 991

ITALIAN QUEENS FOR SALE, 5s. 6d. each. W. A. TAYLOR, Poplars, nr. Luton. 995

WANTED, BEE APPLIANCES in Exchange for Boat or Canoe. FORD, Wharf House, Leek, Staffs. 989

EARLY JUNE SWARMS, including skep, 10s. 6d. each, or 8s. if skep returned. ANWYL LLUGWY, Machynlleth. 994

FOR SALE, nice black-red GAME BANTAMS, 1s. 6d. each. FRANK THOMPSON, Skirbeck Mills, Boston, Lincs. 990

OBSERVATORY HIVE, with nine frames, glass all sides, painted twice, 11s. G. BEE, Beckingham, Gainsborough. 984

NATURAL SWARMS with Queens, 11s. 6d. and 8s. 6d. each. Guaranteed healthy. WOODS, Normandy, Guildford.

HOUSEKEEPER WANTED, to assist Bee-keeper. Comfortable home in the country. Write BOX, *B.B.J.* Office. 988

ENGLISH QUEENS (tested), of my selected stock, 5s. each. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

SECTIONS, very light colour, 8s. dozen. 1899 sections rather darker and very slightly granulated 4s. doz. LING, Shady Camp, Linton, Cambs. 985

PROLIFIC YOUNG QUEENS, healthy, 3s. 6d. By return, 3-frame nuclei. Young Queen, 12s. 6d. Packages included. CARBINES, Venn, Cardinham, Cornwall. 987

SPLENDID new light English HONEY 6½d. per lb. Sample 2d.; swarms 10s. each, two for 19s. cash or deposit. ALBERT COE, Apiary Hall, Ridgewell, Halstead, Essex. 983

PRICE'S reliable 1900 QUEENS, ready shortly. Safe arrival guaranteed, in my introducing cages. Price 5s. 6d. HENRY W. BRICE, 100, Brigstock-road, Thornton Heath.

SHOW AND SHOP.—"HONEYSLICE" SECTION WRAPPERS, of all dealers, 2s. per 100. A few dozen free for shows. Sample free from BELL, Beverley House, East Barnet. 993

FINEST PROLIFIC QUEENS, post free, 5s. Safe arrival guaranteed. Queen-rearing a speciality for thirteen years. Every stock healthy. Rev. C. BREREton, Pulborough, Sussex.

NOVELTY! First Prize, "Royal," York, 1900. "W.H." WAX MOULD. Casts 6 lb. in 2, 4, or 8 ounce cakes. Price 4s. from Rev. W. HEAD, Brilley, Whitney-on-Wye, Herefordshire. 992

WANTED, SECTION HONEY (good). Exchange Bee Appliances, Incubators, Baskets, Hampers, Willow Furniture, Garden Seats. All new goods. Lists free. RUSSELL, Basket Shop, Christchurch. 971

PROLIFIC QUEENS, Blacks, 3s. 6d. Carniolan and Italian, home-breds, 5s.; Virgins, usually on hand, 2s. 6d.; Nuclei with Queens of any variety. Swarms and Stocks. Write for particulars, E. WOODHAM, Clavering, Newport, Essex. 986

Prepaid Advertisements (*Continued*).

HONEY, new extracted, £2 16s. per cwt. OWEN BROWNING, Kingsomborne, Stockbridge, Hants. 979

FIRST-CLASS SECTIONS, 8s. doz. Light extracted HONEY £3 cwt. COCKS, Prospect House, Haddenham, Bucks. 976

NAPTHOL BETA Solution in 8-oz. bottles, with directions, 1s. 2d. post free. GUTHRIE BROS. Alloway, Ayr. 981

1900 PURE CYPRIAN and ITALIAN QUEENS, just arriving, 7s. 6d. each. Safe arrival guaranteed. SPEARMAN, Colesbourne, Andoversford.

FERTILE young CARNIOLAN QUEENS, untested, 4s. 6d.; with nuclei, 12s. FRANK REED, Portslade, Sussex. 972

ON SALE, several strong STOCKS of BEES in bar-frame hives. Bees and hives in excellent condition. Cheap. L. BAILEY, 55, Park-road, Leek, Staffs. 969

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. HORSLEY, Merridale House, Top of Castle Drive, Isle of Man. 932

SWARMS of superior BEES, 10s. 6d., 12s. 6d., and 15s., packed free. JOHN WALTON, Honey Cott, Weston, Leamington. 907

FIRST-CLASS WOIBLET EMBEDDER, ½ lb. best tinned wire, block and tacks, 2s. 6d. free. EDWIN GLOSSOP, Ambergate. 828

BEST quality 1900 laying QUEENS, 5s. each; two 9s. Virgin Queens, 2s. 6d. each. 3-frame Nuclei, with young Queen, 12s. 6d. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

TANNED GARDEN NETTING.—25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Only best quality supplied. L. WREN & SON, 139, High-street, Lowestoft. 818

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

THE most satisfactory departure in the South for imported Hybrid and Virgin Queens. Swarms a speciality. My hives guaranteed waterproof in winter. List free. SPEARMAN, Colesbourne, Andoversford. 934

HYBRIDS FOR PROFIT.—My Virgin Queens (Pure Italians and Carniolans), 2s. each; from selected mothers in perfect Introducing cages; safe arrival guaranteed. SPEARMAN, Colesbourne, Andoversford. 938

BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. EDWARD REYNOLDS, Glove Manufacturer, Andover.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2¾, 3, and 3½ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 9d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

FOR SALE, BEES, HONEY, HIVES, and APPLIANCES,
New and Second-hand, Cheap.
SPECIALLY CHEAP, well-made HIVES, catalogue price (new) 24s., for 18s. to effect a speedy sale.
H. N. BAXTER, Sedbergh, R.S.O., Yorks.

LANCASHIRE BEE-KEEPERS' ASSOCIATION.
MEETINGS and COUNTY COUNCIL LECTURES and DEMONSTRATIONS by Mr. F. H. TAYLOR, First-Class Expert, B.B.K.A.:—
STRETFORD, 7th JULY, at 3 p.m., at Alpine House, Urmston-lane.
GATEACRE, 14th JULY, at 5.30 p.m., on the Cricket Ground.
AINSDALE, near Southport, in the Grounds of Major Campbell, Woodside, at 3.30 p.m. *All interested invited.*

Editorial, Notices, &c.

LEICESTERSHIRE B.K.A.

ANNUAL SHOW.

The annual exhibition of bees and honey was held in connection with the Leicestershire Agricultural Society's Show at Leicester on July 4 and 5. The honey tent was tastefully set out with plants and flowers kindly lent by Messrs. Boyes and Underwood. The unfavourable weather conditions during the past few weeks plainly told its tale, and the show of honey was not up to the usual average. Lectures in the bee-tent were given at intervals by Mr. Riley, Leicester, and Mr. A. G. Pugh, Notts, who also officiated as judges and made the following awards :—

Observatory Hive, stocked with Bees—1st, Miss Cooper, Leicester.

Twelve 1-lb. Jars Granulated Honey.—1st, J. Waterfield, Kibworth ; 2nd, W. P. Meadows, Syston.

Twelve 1-lb. Jars Extracted Honey.—1st, S. J. Cooper, Leicester ; 2nd, Miss Cooper ; 3rd, J. Waterfield.

Display of Honey.—1st, S. J. Cooper ; 2nd, Mrs. Turner, Waltham.

Six 1-lb Jars, Extracted Honey (novices)—1st, G. Palmer, Leicester ; 2nd, Mrs. Proudman, Thrussington.

Six 1-lb. Sections (novices).—2nd, H. Bott, Market Harborough.

Honey Beverage—1st, A. Brown, Loughborough ; 2nd, Mrs. Garner.

Honey Cake.—1st, Mrs. Waterfield, Kibworth.—*Communicated*

BEE-KEEPERS' ASSOCIATION

FOR SPENNYMOOR AND DISTRICT.

What promises to become a useful association was formed on July 4, when a good representative number of lovers of the craft met in Mr. W. Johnson's Restaurant, Cheapside, Spennymoor. The advantages of co-operation among bee-keepers were freely discussed, and it was decided to form a bee-keepers' association for Spennymoor and district. The Rev. R. Caulton, a practical bee-keeper, was unanimously elected president, Dr. R. S. Anderson, vice, Mr. W. J. Sanderson, treasurer, and Mr. R. Clark, secretary.

Various matters of interest were debated, perhaps the most interesting being read *versus* rail in taking bees to the moors, and it was finally decided to request Messrs. H. Ross and J. T. Pickering to visit the moors and report at the next meeting on August 1.

Votes of thanks to the chairman for undertaking the position of president and to Mr. R. Clark for initiating the movement in Spennymoor brought the pleasant and profitable first meeting to a close.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

HEXAGONAL STRUCTURE OF BEES-WAX.

[4027.] Most of your readers will no doubt remember the discussion which followed the publication of Messrs. Dawson and Woodhead's article, read before the British Association for the Advancement of Science, on the above subject (BRITISH BEE JOURNAL, October 5, 1899).

Both Mr. Cowan and myself pointed out reasons why this theory of the crystallisation of beeswax could not be accepted, and now after some months it is interesting to note that Mr. F. Chapman in "Ann. Natural History V., 1900," page 320, points out that crystalline structure in the wax has no effect in producing the hexagonal markings seen on the surface of cooling wax, as suggested by Messrs. Dawson and Woodhead. The more nearly homogeneous a substance is, the more readily are the hexagons produced. Mr. Chapman doubts whether the phenomenon—which produces the characteristic jointing of igneous rocks—can be compared with the natural cells of honeycomb, for the melting point of beeswax is too high for it to be supposed that the bees can melt the wax. —R. HAMLYN-HARRIS, F.R.M.S, F.Z.S., &c.

[The later part of the above is gleaned from the June number of the Journal of the Royal Microscopical Society.—R. H.-H]

HONEY AND WAX IMPORTS IN GERMANY.

[4028.] In the *Journal of the Board of Agriculture* for June there are the following items of information interesting to bee-keepers :—

"48,000,000 lb. of honey were imported into Hamburg in 1899—more than half came from Chili and Peru. The trade was considered favourable to importers and dealers, although the partial failure of honey crop in North America and in Mexico caused a slow, but steady rise in prices until towards close of year, when reports of better prospects for the coming season resulted in a corresponding fall.

"Complaint is made of continually increasing competition of artificial honey. Measures

are being taken by honey producers in Germany to obtain prohibition of imitations.

"Business in wax continues to develop in Hamburg, which is rapidly becoming the leading market. [Query.—Was not Hamburg the great wax emporium in the Middle Ages?—E. D. T.] Beeswax is imported thence principally from the West Indies, South America, Morocco, and Madagascar. The Hamburg market closed firm owing to unfavourable reports from Brazil. Transactions in Japanese wax were limited and trade depressed owing to unsatisfactory quality of year's supplies. [Perhaps the adulteration with vegetable wax?—E. D. T.]

"In Hungary bee-keeping makes progress, and large quantities of honey and wax are reported. In 1897, the latest year for which statistics are available, the number of swarms were 641,127, of which 197,382 occupied hives with movable frames, and 443,745 in straw-hives; quantity of honey estimated at 68,000 cwt., and of wax 4,400 cwt.; exports in same year, 30,000 cwt. [NOTE.—If the swarms represented the number of original stocks, this estimated product represents 12 lb. of honey and 12 oz. of wax per stock.—E. D. T.]

"The Board has received through the Colonial Office copy of an Act, dated October 9, 1899, for the eradication of contagious diseases among bees in Western Australia. This Act requires every person who may have in his possession or under his care any colony, hive, or swarm of bees affected with foul brood or other contagious disease to forthwith report the same to the Department of Agriculture, and to take steps for the eradication of such diseases as the Department may direct.

"It also empowers the Governor to appoint one or more bee experts to carry out the duties necessary for the administration of the Act."—E. D. TILL, *Eynsford, Kent, July* 6.

HIVE-MAKING.

SIZE OF FRAMES.

[4029.] On reading the report of the "Royal" Show in B.B.J. (page 251), I notice that in referring to Class 366 you seem to object to the sides of hives being made higher than the top of the frames. Personally, I like hives with the sides at least 1½ in. above tops of frames for many reasons. In the first place they can be handled just as easily with a little care as when frames are flush, while in winter they are much warmer, as the packing can be done much better, and there is no need to use a shallow lift for feeding, as in some hives I have seen.

In winter also and during high winds if the roof gets blown off there is little chance of the quilts flying away when the side of the hive is high, so if the hive is seen to have lost its roof, the most mischief is wet quilts, which can easily be replaced. While writing I might mention that "brood-frames," as usually manufactured, are, in my opinion, made of too thin wood and bend with heavy combs. I make my own frames, and, using much thicker stuff, find them easier to handle when full of comb and honey. I also make them 1⅛ in. wide and always have the comb built inside of the frame and never projecting, as in other frames. —WHITFIELD, *West Hartlepool, July* 1.

[There can be no reasonable objection to individual bee-keepers making hives for their own use to whatever style, size, or shape they may prefer, but it forms part of our mission as editors to guide readers into the methods of management proved by experience to be the best. With regard to the question of hive-sides projecting above the frame-tops, we venture to say that ninety out of every hundred practical men will agree with the view expressed on page 251, and we repeat our wonder that any one who has had experience in setting on and taking off surplus-chambers can tolerate so great an obstacle to ease in working as projecting hive-sides. With regard to "frames" and our friend's deviation from the B.B.K.A. standard, the same argument applies with equal force, because while allowing perfect freedom to all so far as regards personal preferences, we strongly deprecate any general interference with the size or measurement of the standard frame. The benefits conferred on the bee industry by the adoption of a uniform frame for use in this country are so obvious, that any influence we may possess will never be used other than in recommending the "B.B.K.A. standard" as by far the best size for brood-chambers in all parts of the United Kingdom.—EDS.]

BEES SUPERSEDING A QUEEN.

[4030.] It is probably not often that bee-keepers become aware that a colony has superseded a queen, but the following appears to be an undoubted case:—

A Ligurian stock was supered on June 12. As they were not working in it, I determined to examine the stock on the 27th. To my surprise I found queen-cells in one comb, but could find no queen, and, to make sure, I carefully examined it the next day, with the same result. The stock was not strong enough to make it probable she could be easily overlooked. It may be objected: Perhaps they had swarmed. This is improbable; there were not half-a-dozen drones in the hive, only four frames of brood, and it was not overcrowded, and no swarm had been observed to issue. The queen could not have been injured during manipulation, as there was brood in all stages, and the hive had not been touched from the 12th to the 27th. There were only two ripe queen-cells, and some commenced.

On the whole, it seems a clear case of the bees superseding their queen because she was failing. She was an imported queen, introduced to the stock in 1898, which did remarkably well last season. On July 2 a fine young queen had been hatched and the remaining royal cell destroyed.—ALPHA, *Driffield.*

BEES DECAMPING.

[4031.] As a reader of your influential journal for a long time I thought the following might possess interest, and that you might through your columns give me a possible explanation. In June, 1899, I got a strong swarm and put them in a bar-frame hive, in which they did very well, and had more than three-quarters filled the body of the hive by the time I prepared the bees for winter. They commenced working on willows early in March of this year, and continued doing well, bringing in plenty of pollen, up to middle of May, when they gradually began to fall off and seldom brought in pollen. They continued like this until June 26, which was an exceptionally fine day, and the bees were working better than usual that morning. At 2 p.m. my young brother ran in to tell me that the bees had swarmed and were flying away; and, sure enough, on going out I saw a rather small swarm careering away with the wind. I followed until they passed over a wall, when I lost sight of them. Now comes the funny part of it. On returning I opened the hive, and there was not a single bee in it nor a particle of brood! nothing but about 8 lb. of unsealed honey in the upper parts of the frames of brood-nest. On one of the frames there was a large queen-cell which seemed to have been recently vacated.

The whole hive seemed perfectly sweet and healthy, and not a particle of foul brood or fungus of any sort. There were, I forgot to say, about twenty or thirty cells filled with pollen.—PERPLEXED ONE, *Cork, July* 3.

[It would appear as if some mishap had befallen the old queen, and that, in consequence, a successor was raised; then, when the young queen left the hive for mating purposes—on June 26—the bees left with her, and from some unforeseen cause failed to return. This is the only explanation we can offer judged by the facts stated above.—EDS.]

FOUL BROOD AND SKEPS.

[4032.] I must gravely dissent from the opinion expressed by Mr. J. H. Rogers (on page 252) with regard to foul brood and skeps; they are the source of all the mischief in my neighbourhood; in fact, foul old skeps have infected my own apiary. Skeps rotten with age, standing on old floor-boards never cleansed or disinfected, the disease gets in, the owner is ignorant and knows nothing of foul brood; finally his diseased hives are robbed out and the disease conveyed to stocks kept, as mine are, under sanitary conditions. In skeps the disease cannot be detected in its early stages, as in frame-hives; the stock perhaps gets weak, and either dies or is robbed out, or may be the owner "takes it" for the sake of the honey it may contain, exposing the comb for other stocks to clean up. Such a case came under my notice last autumn, and now the owner's one bar frame-hive is affected and in all probability his three skeps as well. I fear foul brood is going to commit great ravages in the East Riding of Yorkshire. If the skeps in my neighbourhood could be all destroyed, there might be a chance of stamping out foul brood, but never so long as they exist.—ALPHA, *Driffield.*

EXPERTS AND FOUL BROOD.

[4033.] After reading Mr. Knight's second letter (No. 4014, p. 244) my first inclination was to make no reply, but after reading again and seeing how he has shifted his ground and the care taken to suppress the facts, I must ask to be allowed to place the truth before your readers. The charge against me is that of using a knife to probe a diseased cell, and, having done so, cleaning the knife by sticking the point in the ground; then that I used the same knife "on a cell containing only chilled brood." But there was no chilled brood in any of the hives examined. I do and did use a knife to test diseased cells, steel being a non-absorbent, easily and readily cleaned. Had Mr. Knight provided any means of disinfecting the said knife I should have availed myself of it, but having nothing at hand at the moment, I used Nature's universal cleaner, the earth, light, and air, which (as is well known to all who are acquainted with the nature of germ diseases) are most powerful and efficient germicides. Steel would be less likely than almost any other material to carry the disease after being cleaned as above. As to the chilled brood, Mr. Knight will permit me to say that it is a question whether he would know the difference between the one and the other. The following facts will, I think, show this:—

The bees in question examined by me belonged to a gentleman of high standing in the county in whose employ Mr. Knight happens to be, and, having some knowledge of bee-keeping, the hives were placed under his especial management and supervision. I regretted at the time having to report to the Association that half the stocks of the gentleman referred to were badly affected with foul brood, and that the district is contaminated right and left, the reason for which, I think, is not far to seek. I was not surprised under the circumstances that Mr. Knight made an excuse not to have his own bees examined, nor do I wonder that his neighbours think he was wrong in doing so, as I might have been able then and there to find out the centre from which the disease in this district is being distributed. In conclusion, I should add that the local secretary of the K. and S.B.K.A. was present at the time in question, and can, if necessary, verify the facts here detailed.

In reply to Mr. Rogers (4015, page 252), I may say that there are in Sussex plenty of stocks in skeps affected with foul brood quite as bad as any I found in frame-hives, and these, in my opinion, are the cause of its spread. The more skeps in a district the

more disease one finds there, for the very reason given by Mr. Rogers on page 253—viz., that inexperienced bee-keepers do not detect the disease till their bees die out, while the hives are allowed to remain in the garden as an inducement for stray swarms to enter, or for the bees of healthy stocks to rob and carry the mischief home. I found cases of this sort when on my tour in Essex, the owners of which have neither the inclination nor the ability to deal with the disease. I might say that, like Mr. Rogers, I wash my hands with carbolic soap after manipulating, whenever I can get it, but that is not always. I am neither a "local" nor a "so-called" expert, but got my certificate eighteen years back, and having done expert work in four counties every year since, I flatter myself that I have learned a little every year by that experience. I must, however, confess my surprise at the readiness with which our editors, in the foot-note on page 226, expressed an opinion regarding a matter with which they can have known nothing of the surrounding circumstances and upon hearing one side of the case only. Such an expression of opinion is, I think, damaging to the character of the B.B.A. experts as individuals and to each affiliated association as a body.—JOHN PERRY, *Expert, Kent and Sussex B.K.A.*

[Mr. Perry is, of course, free to express his "surprise" at our venturing an editorial opinion upon a matter after "hearing only one side of the case"; but (not by way of apology for our footnote on page 226) we would remind him that we expressly qualified our opinion by adding the words, "if the above details are strictly accurate;" and we see no reason for altering this view. Nor do we now hesitate to strongly advise all certificated experts—no matter how many years their experience may cover—to make themselves acquainted with the most recent discoveries with regard to foul brood, and the enormous difference between the bacillus and the spore, as also between antiseptics and germicides when dealing with the disease. It is now known that the spore left behind in the later stage of the disease is almost indestructible, resisting the strongest antiseptics or disinfectants, including "Nature's universal cleaner, the earth," &c. Even boiling for some time does not prevent subsequent germination when conveyed to a suitable medium for its growth. We also deem it indispensable that experts should carry with them, when on tour, a supply of carbolic acid and of medicated soap for disinfecting purposes.—EDS.]

DEALING WITH FOUL BROOD.

[4034.] I notice there are in recent numbers of the B.J. some useful reports concerning foul brood, and I thought you and others would like to know how we get on in dealing with the disease about here in Essex. I had my first experience of it in the spring of 1899, three of my hives being attacked. In two of them the brood was in the brown or ropey stage, while in the other one it was in the light-coloured or early stage of development which does not smell so bad. I burnt the worst of the three outright, and when our county expert came he advised driving the other two stocks and treating the bees as a swarm, which I did, uniting both lots in one hive on six frames. I then fed the bees till they would take no more. They built out and filled twelve frames of comb and I packed them for winter on ten frames. The bees came through all right and were doing well when the expert came this year. I put on a box of shallow frames in good time, but as the bees did not start work in them I took them off last week, and on examining the comb below found the disease there again, but not bad, while there was a good strong lot of bees. I soon made up my mind what to do this time. I have burnt and buried the lot except the clean shallow combs, which are put away ready for melting when I send my wax for this year, and I hope that will end it with me. My other eight stocks are doing well. I may say the hive is broken up for firewood.

I have taken four shallow frames of comb off one hive this year and have others full, but the weather is hardly warm enough for getting it sealed over. There is a good flow of honey here now, but unless we soon get a few sunny days without cold wind it will be in vain to look for a good harvest. I have only had one swarm, which went back before my wife could get a skep to hive them.—C. R., *Wickford.*

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The apiary of Messrs. Dawson Bros., illustrated on next page, is typical of the gradual but certain method by which the modern frame-hive is taking the place of the venerable straw skep. It is also interesting to have a further instance in which bee-keeping is made a profitable adjunct to the business of market-gardening, as told by our friends, who write us as follows:—

"Our family have been bee-keepers in straw skeps for over fifty years, but about eight years ago we commenced with frame-hives, and, having been influenced to some extent by your valuable journal, should like to give you some account of our apiary.

"In our father's day the number of our stocks reached as many as eighty at one time, and in good seasons, as you may imagine, many hives were smothered. In our boyhood days we have trudged to the Bradfield Moors with hives strapped across a donkey's back, and father with skeps slung on a yoke on his shoulders. This was a walk of ten miles each way. However, as already said, we began eight years ago with frame-hives, making our own on the 'W.B.C.' pattern. At that time

our stock of skeps was only four. We commenced the season of 1899 with nine frame-hives and two skeps, and finished with ten of the former and thirteen skeps.

"We had last year an unusual experience—at least with us—which may possess some interest, as follows:—On May 30, 1899, a strong stock in skep threw off a swarm. On July 11 this swarm threw a virgin swarm, and on the 25th of same month a second virgin swarm. We thus had three swarms from one stock, all of which have done well. The second virgin swarm was hived on nine frames and taken to the moors, then supered with ten shallow frames. When returned home all these frames were full up. We had last season eleven natural swarms and made three artificial ones, our harvest of honey being 10 stone of extracted honey and about 15 stone of heather honey. The enclosed photo is a view of our apiary as it stood at the beginning of 1899.

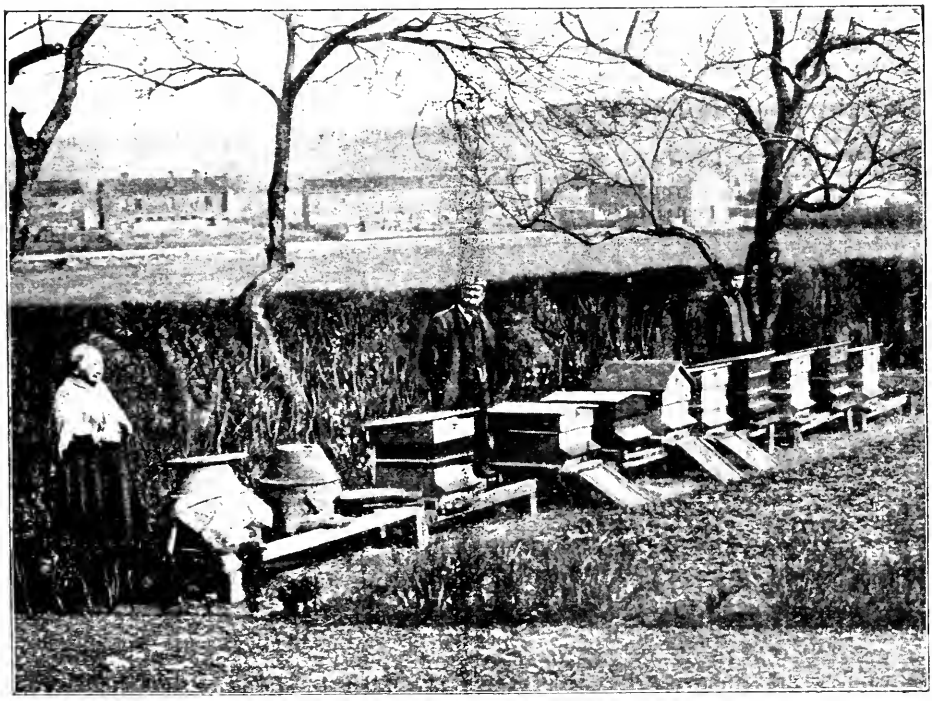
"We took to the moors last year seven frame-hives and twelve straw skeps. One frame-hive filled twenty shallow frames at the moors and twenty at home, or forty in all. The straw skeps weighed from 3 to 5 stone each when the season ended. Twenty of our hives are headed by queens bred in 1899.

"With regard to our bee-prospects for 1900, the spring-time was very cold and stormy, causing swarming to be late. Our first swarms came off on June 2. We have had six swarms in all, but the first two united and were hived on ten frames. These are now at work in sections doing well. These skeps have thrown two swarms each, but one of the second swarms flew away. None of our frame-hives have swarmed, and the strong ones are storing well in supers. Two of them have each twenty shallow frames on now filling well. Other six hives have each a rack of twenty-one sections on, and the bees were filling them rapidly at first, but the bad weather of last fortnight has delayed the bees from finishing them off. We have also four skeps supered with other skeps divided by queen-excluder. We have had two hives containing two queens each, one a frame-hive and one a skep. In the frame-hive (a virgin swarm last year) the queen was found on ground in front of hive. On examination we found another queen on frames and brood in all stages. In the second instance a dead queen was found cast out of skep. Turned skep up and found plenty of brood in cells. Bees continued working well, hive got strong rapidly, and now has skep super on full of bees and honey.

"The above happened in April.

"We can dispose of all our honey at 1s. per pound in the village, and to our customers in the fruit and vegetable market, Sheffield, where we occupy a stand twice a week as market gardeners."

The figures in photo are those of the Messrs. H. and C. Dawson and their mother.



MESSRS. HENRY AND CHAS. DAWSON'S APIARY, ECCLESFIELD, NEAR SHEFFIELD.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

JUNE, 1900.

Rainfall, 3·18 in.
Heaviest fall, ·80 in., on 21st.
Rain fell on 18 days.
Above average, 1·37 in.
Maximum Temperature, 77°, on 12th.
Minimum Temperature, 44°, on 2nd.
Minimum on Grass, —
Frosty Nights, —
Sunshine, 215·5 hrs.
Brightest Day, 12th, 13·3 hours.
Sunless Days, 3.
Below average, 13·1 hours.
Mean Maximum, 64·1°.
Mean Minimum, 49·8°.
Mean Temperature, 56·9°.
Below average, 1·3°.
Maximum Barometer, 30·27°, on 1st.
Minimum Barometer, 29·56°, on 25th.

L. B. BIRKETT.

SEASONABLE QUESTIONS.

QUEENING OLD STOCKS AFTER SWARMING.

QUESTION.—"A friend tells me if I wish to be successful as a honey-producer I should give the old colony a queen immediately after it has cast a swarm. Is this right? I wish to know so I may prepare hives for nuclei for the rearing of such queens this winter if this is the best way. Please tell us if there is any better way?

ANSWER.—This is a theme much harped upon some years ago, but of late not so much has been said about it. At that time we were told that the bee-keeper who wished to secure the best results from his bees should have a laying queen ready to give to each colony as soon as it casts its first or prime swarm, as the time lost to the old colony in rearing a queen was equivalent to a swarm of bees. I went to experimenting, and the truth of the statement that the time lost by the bees in rearing a queen was equivalent to a swarm of bees was just the thing which made the plan unsuccessful with me. If it were *bees* that I had wished, it would have been a success.

In this locality white clover yields only enough honey, as a rule, to keep the bees breeding nicely, and thus swarming is brought about from June 20 to July 1. Our main honey harvest is from basswood, which blooms from July 4 to 16. All who are familiar with natural swarming know that bees are comparatively few in the spring, and increase by the rapidly increasing brood produced by the queen until a swarm is the result. By giving a laying queen to a colony immediately after it has cast a swarm, the same conditions are brought about as before—natural swarming. The only difference is that having plenty of brood at the time the queen is given they build up faster, so are prepared to swarm in a shorter time. Now this last swarming, brought about by the giving of the queen, will come right in our basswood honey harvest, so it cuts off what we are seeking after, namely, surplus comb-honey; for it is well known that bees having the swarming-fever do little or no work in the sections; and if allowed to swarm again the section honey we were seeking for has passed away with this second swarming.

Now let us look and see how the matter would have stood had we allowed the colony to rear its queen, instead of giving one:

Eight days after the swarm issued the young queen would have naturally emerged from her cell, and if at that time we remove all other queen-cells from the hive, the issue of second swarms is entirely prevented. In ten days more this young queen is ready to lay, which is about the time basswood begins to yield honey freely. During the period between the time the prime swarm issued and when the young queen commences to lay, the bees, not having any brood to nurse for the last half of the time, consume but little honey, hence, as fast as the young bees emerge from the cells they are filled with honey, for bees not having a laying queen, nor any unsealed brood, seldom work to any amount in sections. So when the young queen is ready to lay she finds every available cell stored with honey. At about this time, or perhaps a day or two before, the instinct of the bees teaches them that they must have brood or they will soon cease to exist as a colony, and a general rush is made for the sections. The honey from below is carried above, and this, together with the large amount coming in from the field at this time, results in nearly completed sections in a week's time, so that by the time the basswood flow is over we have well-filled sections of the very finest quality, such as always bring the very top price in market. Many and many a time have I had such colonies fill and complete section honey to the amount of 60 lb. in from ten to twelve days, while when I was experimenting with the plan recommended to the questioner, those upon which it was tried did little else than swarm during the same time.

Different localities give different results, and where a locality gives one continuous yield of honey for months at a time, then the giving of a laying queen to the old colony immediately after swarming would work better, especially where working for extracted honey. But according to the various localities reported to me during the past thirty years, it is evident that by far the larger number of localities give a large flow of honey at a certain period rather than a continuous yield during the whole summer.

Then I have another reason for not liking the plan in a locality which does not give a steady yield, which is this:—After basswood we have a honey-dearth, hence the bees from the introduced queen are of no special value, but, on the contrary, are brought on the stage of action only to become consumers. On an average it takes thirty-seven days from the time the eggs are laid till the bees from such eggs go to the fields as labourers; hence the

eggs for the honey-producing bees must be deposited in the cells that length of time before the honey harvest ends, or else they are of no value as honey-gatherers. As the basswood is all gone before the eggs of the introduced queen become honey-producing bees, and as the larger part of them die of old age before buckwheat or fall flowers yield honey, it will be seen that we are only working to a loss by giving such a queen, and that a great gain is made by letting each old colony, having cast a swarm, rear its own queen; for thereby we save the expensive feeding of the larvæ, which are only to become expensive consumers of the honey brought in during the harvest.

Again, the chances are that the colony rearing its own queen will be better stocked with bees of the right age for wintering at the close of the season than will the one having the introduced queen.

All these things need to be considered before we enter any matter which has not been fully tried with us. It is always well to go slow in any new thing till we have proved it a success, then we can enter it largely, with confidence, if successful.—G. M. DOOLITTLE, *in "American Bee Journal."*

Queries and Replies.

[2449.] *Suspected Loss of Queen.*—I should like your advice on the following case:—On June 10 a strong stock of Ligurian-English bees belonging to me swarmed, which swarm I hived. Six days later the old stock sent out a cast, which was returned to the parent hive next morning (after looking through old stock and noticing queen-cells torn open at sides), and I caught and removed the queen as the bees ran in. When the hive swarmed in the first instance I took away the outside combs of old stock and gave them to the swarm, first being careful to see that they had no queen-cells on them, and brushing all the bees off. Before returning the cast on 17th, as stated, I put two frames of foundation near the middle of old stock. On the 21st I noticed a commotion amongst the bees of old stock, but set that down to young queen being out to meet drones, and twice since I have seen a similar commotion. On Saturday morning, June 30, being the fourteenth day after birth of young queen, I made an examination of combs to see if she had started laying, but failed to find eggs or brood, but of course it is soon enough for that as yet. But what bothers me is this: Near the middle of each of the two sheets of foundation, which I inserted when returning cast, I find the base of a queen-cell formed, and therefore ask: Can I be sure from this that the young queen is lost, or do you think she is still there, but that the bees are tired of waiting for her to commence laying? I noticed on the 27th that the bees of this stock were lying about the flight-board in lumps with their heads together, but a friend of mine states that they had a habit of doing similar at the heather last year when they had a queen.—J. H. W., *Haydon Bridge, Carlisle, July.*

REPLY.—The formation of embryo queen-cells, along with the "commotion" observed on the 21st, point to loss of queen during her mating trip. We should, however, at once make certain of how matters stand by overhauling the combs and finding the queen if there are still no eggs or brood in the cells.

[2450.] *Working Sections for Profit.*—Do you consider it is advisable in such changeable weather we have in this part of Scotland to work so many as three racks of sections at one time? I find my bees take as long to completely finish fifteen sections out of twenty-one as it takes them to fill another rack minus the sealing, and when in the end I take the first one off the other is almost as far advanced. We have sycamore and hawthorn in June, also white clover and heather following, without moving our bees. Your advice on the above will oblige.—GEO. LAMONT, *Ardlamont, N.B.*

REPLY.—If the bees are strong enough to fill two or more racks of sections, and honey is coming in well, it is no doubt advantageous to set on two or even three racks at one time. On the other hand, unless judicious care is exercised in giving surplus room, the bee-keeper runs the risk of having a lot of unfinished sections on hand when the season closes. In heather districts the risk mentioned is, of course, very much lessened, and with warm wrapping to protect supers and keep the bees from leaving them on cold nights in the autumn the risk may be entirely overcome.

[2451.] *Bees Transferring Themselves. A Batch of Queries.*—I placed two skeps on top bars of two frame-hives for self-transferring on April 28. I have just put on queen-excluders and ten shallow frames (fitted) on No. 1, and a rack of sections on No. 2. The top bars were covered with enamel cloths with 4-in. hole in and the skeps on top of this and covered up. 1. Have I done this too soon, not being certain as to the queen having gone below into the brood-chamber? How must I ascertain this? There is some little capped brood in the combs below already. 2. Is this sufficient evidence of the certainty of queen being there? 3. I want to destroy the old skeps at the earliest opportunity, and substitute proper and modern surplus-chambers, but the skeps contain brood. Some time ago I found a skep queenless, with only a few bees, but a fortnight ago there was a queen-cell on the comb of this same skep, with larva in it. What is the best to do with this? Should I let it remain or unite the bees now or later to another stock? Two other purchased stocks are doing well on shallow frames. 4. When putting in additional crates of shallow frames (fitted) should they be put *on top* of those already

filled or *below* them? 5. Is it best to let all honey remain in hive till end of season or extract periodically? 6. Should all honey be capped before extracting? I think I am doing splendidly with four of my stocks, and with a swarm given me on June 19, for my first season in modern hives. I can examine them without any fear and have only once been stung, and that was my own fault. I also attend to a couple of hives belonging to neighbours, and find bee-keeping a splendid and most enjoyable hobby.—W. H. Buck, *Dawley, Salop, July* 1.

Reply.—1. No; because if there is brood in the combs below there need be no uncertainty with regard to queen being there. 2. It ought to be, but since you mention there being brood still in skep, the combs in lower hive should be examined to make sure. 3. As bees are only few in number they are not worth troubling about so far as regards uniting. 4. Below usually. 5. This is mainly a matter of convenience. 6. Yes.

[2452.] *Honey not Granulating.*—Would you kindly give me a word of advice in B.B.J.? I have some extracted honey in jars that I won first prize with last year (the judge observing it was the best flavoured honey in the show), but it does not granulate. Can you tell me of any plan to make it do so, as I want to show it next month in the granulated class? I was late getting it off the hives last year, and had to put the glass jars in warm water to get the air bubbles out in time for the show.—C. H., *Guildford, July* 4.

Reply.—We know of no plan by which honey that has remained liquid since last year can now be made to granulate in warm weather.

Bee Shows to Come.

July 12 and 13, at Spalding.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society.

July 18, 19, and 20, at Doncaster.—Bee and Honey Show in connection with the Yorks Agricultural Society's Show.

July 23.—Caergwrle Castle Flower Show. Open class for six 1-lb. jars of extracted honey. Schedules from H. S. Davies, Abermorddu, Wrexham.

July 24 and 25, at Stafford.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show.

July 26, at Loughton, Essex.—Honey Show in connection with the Loughton Horticultural Society's Annual Exhibition. Five classes for honey and one for wax, open to the county of Essex. Entry fee 6d. Schedules from G. F. O'Fflahertie, Monghyr Cottage, Loughton. **Entries close July 20.**

July 27, at Driffield, Yorks. Driffield and District B.K.A. Show, in conjunction with the Driffield Agricultural Society. Eight open honey classes. Schedules from W. E. Richardson, 3, Brierley-road, Driffield. **Entries close July 19.**

July 31, at Ely.—Honey Show in connection with the Cambs and Isle of Ely Agricultural Society. Several open classes. For schedules apply to C. N. White, St. Neots.

August 1, at Henbury, near Bristol.—Annual Show of the Henbury District Bee-keepers' Association. Open classes with liberal prizes for "collection," twelve 1-lb. sections, twelve 1-lb. glass jars, single 1-lb. section, 1-lb. jar, wax, granulated honey, &c. Schedules from C. A. Newman, Hon. Sec., Henbury. **Entries close July 24.**

August 2, at Ramsey (Hunts).—Annual Show of the Ramsey Horticultural Society. Open class for honey, 1st prize £1 1s.; 2nd prize, 10s. Schedules from F. Rowell, Secretary, Ramsey (Hunts).

August 2, in the Grounds of Compton House.—Annual Show of the Yetminster District B.K.A. Open classes for single 1-lb. section and also for 1-lb. glass jar of extracted honey (entry free). Schedules from G. Leeding, Hon. Sec., B.K.A., Bradford Abbas, Sherborne, Dorset. **Entries close July 29.**

August 2, at Market Drayton.—Honey Show in connection with the Market Drayton Horticultural Society. Two open classes, twelve 1-lb. sections and twelve 1-lb. glass jars run honey. Prizes in each class, 15s., 10s., 5s. Schedules from W. Woodburn, Secretary, Market Drayton. **Entries close July 28.**

August 2, at Abergwili.—Honey Show in connection with the Horticultural Exhibition. Open class for single 1 lb. jar Prizes 10s., 7s. 6d., 5s., 2s. 6d. (no entry fee). Exhibits to reach the Secretary not later than July 31. Schedules from J. Jones, 3, Gifre-gardens, Abergwili, R S.O.

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from H. Tolson, Park House, St. Thomas, Exeter. **Entries close July 28.**

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead. **Entries close July 19.**

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday), **at Lichfield.**—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Two classes for members of the Staffs B.K.A. Open classes for dark honey and wax, and two for cottagers. Two medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations in Beetent of Worcester C.C. by Rev. E. Davenport.

August 6 (Bank Holiday), **at Melton Constable Park.**—North Norfolk B.K.A. Annual Honey Show in connection with the Horticultural Exhibition. Schedules from Hon. Sec., C. J. Cooke, Edgefield, Melton Constable. **Entries close July 28.**

August 6, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Marlow, Bucks.—Annual Show in connection with the Marlow Horticultural Society, under the auspices of the Berks B.K.A. Bees, hives, and appliances; honey, &c. Twelve open classes. Liberal prizes. Schedules from A. D. Cripps, High-street, Marlow. **Entries close August 4.**

August 8, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1 lb. section and single 1 lb. jar, with no entry fee). Schedules from J. P. Inkpen, Neston, Neston, Corsham, Wilts.

August 16, at Goole.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 11.**

August 25, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and

for appliances and wax, also for single jar and section, with free entry. Twenty other classes, for Scotland only. Liberal prizes. Schedules from Jas. Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 15.**

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close August 8.**

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes." Liberal prizes and medals. Twenty classes in all. Schedules from James Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (5th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** Schedules now ready. (See advertisement on p. vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. ADDYMAN (Yorks).—*Transferring from Skeps to Frame Hives.*—In view of the season being so far advanced we should defer transferring till spring, and adopt the method described in new edition of "Guide Book" sent you by post.

J. J. W. R. (St. Albans).—Much obliged for Australian paper sent, but you will notice that the articles on bee-keeping are mainly reprint from the various bee journals published, including our own. Nor would any good purpose be served by mentioning the matter to which you draw special attention, seeing that "poisonous honey" is not produced in this country.

L. E. (Anglesea).—*Bees not Working in Sections.*—1. Beyond saying that if the hives are healthy, strong in bees, and pasturage plentiful, it should need only suitable weather to start work in sections. 2. The insect enclosed in letter is a drone.

W. J. (Wrexham).—*Quality of Honey.*—Sample received is only third-rate in quality, the colour being poor and flavour somewhat rank. It is from mixed sources, and probably contains some from privet and from the sycamore.

G. W. P. (Yeovil).—*Judging Sections.*—1. The "points" are (1) evenness and colour of capping; (2) absence of ugly pop-holes at corners, and comb well attached to wood all round; (3) weight (full 16 oz. if possible), together with neatness of "get up" and cleanliness of the section; (4) uniformity in colour of the whole of the exhibit. 2. The honey may be drained out by slicing up the combs of sections and hanging them up in a muslin bag before the fire. To boil honey before exhibiting would be to spoil its chance of prize-winning.

W. H. H. (Lurgan).—*Triple Hives.*—1. It is "possible" to keep three or even more stocks in a hive large enough and with perforated dummies, as per "Wells" system, but we do not advise a trial of it. 2. Perforated zinc is not suitable for dummies in divided hives. Wood is far better. 3. The bees, if strong in lower rack of sections, will resume work in the upper nearly filled one as storage room is required, but bees do not always finish off partly-filled sections after a top swarm has issued, unless the season is a good one.

CARPENTER (Watford).—*Sugar for Bee-Food.*—If sample is guaranteed pure cane it will do very well for summer feeding, but being "yellow crystals" it is not so suitable as refined white crystals for winter feeding.

J. ASHWORTH (Cheshire).—*Honey Samples.*—Honey received is almost wholly from fruit trees, and this is always dark in colour. We don't find any trace of aphidian honey (?) about it. The quality is not by any means bad seeing it was gathered early in the season.

J. B. W. (Gelli Lydan).—*Borage as a Bee-Plant).*—We cannot say why your bees "never take to borage growing five yards away from the hives." It is known as one of the best of honey-yielding flowers, and we have had bees working on a small bed of it as busily as well could be. Have you any quantity of it or only a plant or two? because in the latter case the bees might pass the borage by for more plentiful forage elsewhere.

J. GEARY (Hinckley).—*The "Guinea" Extractor.*—The difference between the old "Guinea" and the "new," at 23s. 6d., consists in an improvement in the "backing" of cage, and the working parts are stronger, so that the extra 2s. 6d. is well spent in securing the advantages gained.

T. H.—*Appointing Judges at Shows.*—It is not in order for an "expert," or, indeed, anyone (when writing to the Secretary of the B.B.K.A.), to apply for an appointment "to act as judge of some show;" and the fact of your having done so "on three occasions" without being appointed is, no doubt, the natural outcome of your irregular action in making such an application.

T. FORD (Cheltenham).—*Dealing with Foul Brood.*—1. There is disease in comb as suspected. 2. The method of dealing with the bees as directed in "Guide Book" cannot be improved upon. 3. Yes, if the infected hive is wetted with paraffin oil, and after applying a light is allowed to burn

till the wood is scorched, it will rid it as effectually of disease as any method that can be devised.

W. BRADBURN (Sale).—*Honey Samples*.—1. The honey is, we think, chiefly from sycamore, but has an admixture from fruit-trees. The sycamore always yields dark honey, and sample is especially so, but we cannot detect honeydew in it. 2. The picture will appear in *Record* either next month or in September.

G. W. MARTIN (Blackburn).—*Immature Bees Cast Out*.—1. There is nothing to indicate disease in the "white brood" (which has reached the imago stage). It usually signifies scarcity of income. 2. The "perforation" may merely indicate that the "capping" has not been fully completed.

BEGINNER (Aberystwyth).—*Honey-Ripener*.—1. The best "honey-ripener" is contained in "the hive and bees." Leave the surplus on till ripe and then extract when convenient. 2. We never recommend special hives to the detriment of others, when so many are good. Use your own judgment, or select prize-winning hives after experienced judges have given them awards.

Suspected Combs.

THROSTLE.—Comb is affected with foul brood, but as sample is not very old comb we cannot say if the disease is of old standing.

J. C. (Penzance).—Comb badly affected with foul brood. You cannot realise how easily infection is spread when sending nearly a whole comb loosely packed in rough box, with hardly any wrapping at all.

X. Y. Z. (Tavistock).—Brood in comb is diseased.

"MONMOUTH."—There is foul brood in comb sent, but the disease has apparently not made very great headway.

Several letters and queries are unavoidably held over till next week.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, several strong, healthy 6-frame STOCKS, 12s. 6d. each. AVERY, Ripley, Surrey. 997

THREE SUPERS and CLEARER FOR SALE, cheap. LEE, Clarkes-road, Wigston. A 6

FOR SALE, four LOTS of BEES and APPLIANCES, 70s. Particulars, apply, COOLING, Dogdyke, near Lincoln. 999

GUINEA EXTRACTOR FOR SALE, new '99, only once used, accept 16s. GEO. HOPE, Ainstable, Kirkoswald, R.S.O., Carlisle. 998

CARNIOLAN tested fertile 1900 QUEENS (strong 3-frame nuclei), 10s. 6d. each; boxes free; guaranteed healthy. J. GEARY, Barwell, Hinckley. 996

24TH YEAR.—Small SWARMS ENGLISH BEES, reliable Queens, 5s. 6d. ALSFORD, Expert, Blandford. A 4

DRIVEN BEES. Orders now booked. August, 5s.; September, 4s. per stock with queen. On rail, package free. PHILLIPS, Spetchley, Worcester. A 1

Prepaid Advertisements (*Continued*).

CARNIOLAN and CARNIOLAN-ITALIAN STOCKS, Nuclei, Swarms, 4s. per comb. Guaranteed healthy. Inspect hives cheap. HORTON, Flixton, Manchester. A 5.

HONEY LABELS, 250, with your address, 2s. 3d.; 500, 3s. 9d. Cartons for Comb Honey, 100, 5s.; 250, 10s. 9d. Large size Bingham Smoker, 3s. 2d. Carriage paid. GUEST, Kings Norton. A 2

FOR SALE, HONEY EXTRACTOR, takes two combs, standard size, Ripener, and Uncapping Knife, price 15s. Eight Travelling Crates, each holds two dozen sections, 8s. E. RUSSELL, Monks Cottage, Forest Row, Sussex. A 3

SPARE Strong STOCKS FOR SALE, cheap. Desiring to clear. SCHOOLMASTER, Littleport, Ely. 991

ITALIAN QUEENS FOR SALE, 5s. 6d. each. W. A. TAYLOR, Poplars, nr. Luton. 995

WANTED, BEE APPLIANCES in Exchange for Boat or Canoe. FORD, Wharf House, Leek, Staffs. 989

ENGLISH QUEENS (tested), of my selected stock, 5s. each. W. WOODLEY, Beedon, Newbury.

NATURAL SWARMS with Queens. 11s. 6d. and 8s. 6d. each. Guaranteed healthy. WOODS, Normandy, Guildford.

HOUSEKEEPER WANTED, to assist Bee-keeper. Comfortable home in the country. Write BOX, *B.B.J.* Office. 988

SECTIONS, very light colour, 8s. dozen. 1899 sections rather darker and very slightly granulated 4s. doz. LING, Shady Camp, Linton, Cambs. 985

BRICE'S reliable 1900 QUEENS. Safe arrival guaranteed, in my introducing cages. Price 5s. 6d. HENRY W. BRICE, 100, Brigstock-road, Thornton Heath.

NAPHTHOL BETA Solution in 8-oz. bottles, with directions, 1s. 2d. post free. GUTHRIE BROS. Alloway, Ayr. 981

1900 PURE CYPRIAN and ITALIAN QUEENS, just arriving, 7s. 6d. each. Safe arrival guaranteed. SPEARMAN, Colesbourne, Andoversford.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. HORSLEY, Merridale House, Top of Castle Drive, Isle of Man. 982

SWARMS of superior BEES, 10s. 6d., 12s. 6d., and 15s., packed free. JOHN WALTON, Honey Cott, Weston, Leamington. 907

PROLIFIC YOUNG QUEENS, healthy, 3s. 6d. By return, 3-frame nuclei. Young Queen, 12s. 6d. Packages included. CARBINES, Venn, Cardinham, Cornwall. 987

SPLENDID new light English HONEY 6½d. per lb. Sample 2d.; swarms 10s. each, two for 19s. cash or deposit. ALBERT COE, Apiary Hall, Ridgewell, Halstead, Essex. 983

FINEST PROLIFIC QUEENS, post free, 5s. Safe arrival guaranteed. Queen-rearing a speciality for thirteen years. Every stock healthy. Rev. C. BRERETON, Pulborough, Sussex.

NOVELTY! First Prize, "Royal," York, 1900. "W.H." WAX MOULD. Casts 6 lb. in 2, 4, or 8 ounce cakes. Price 4s. from Rev. W. HEAD, Brilley, Whitney-on-Wye, Herefordshire. 992

PROLIFIC QUEENS, Blacks, 3s. 6d. Carniolan and Italian, home-breds, 5s.; Virgins, usually on hand, 2s. 6d.; Nuclei with Queens of any variety. Swarms and Stocks. Write for particulars, E. WOODHAM, Clavering, Newport, Essex. 986

BEST quality 1900 laying QUEENS, 5s. each; two 9s. Virgin Queens, 2s. 6d. each. 3-frame Nuclei, with young Queen, 12s. 6d. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

THE most satisfactory departure in the South for imported Hybrid and Virgin Queens. Swarms a speciality. My hives guaranteed waterproof in winter. List free. SPEARMAN, Colesbourne, Andoversford. 934

(Prepaids continued on page viii.)

Editorial, Notices, &c.

LINCS AGRICULTURAL SOCIETY.

SHOW AT SPALDING.

The annual show of the Lincolnshire Agricultural Society was held at Spalding on July 12 and 13, the bee and honey department being under the management of the Lincolnshire B.K.A, and it will long be remembered by those present for the large and serious fire that occurred in Spalding on Wednesday night (July 11), and for the excessive heat while the show lasted. The temperature in the honey tent was so high that the comb in some of the sections became partly melted and broke away from the side of the wood. The sections were thus quite spoiled, besides making a sticky mess on the staging. The many gaps on the table plainly showed the lateness of the season in Lincolnshire, but some excellent honeys were staged, while the varied shades in colour, from very light to dark, showed the need of the classes being divided into two, for light and dark honey. This matter is, we are informed, now under consideration by the committee of the Lincolnshire B.K.A., to be added to the schedule next year. Mr. W. P. Meadows officiated as expert and lecturer in the bee-tent, which was crowded on the last day of the show, and there was witnessed the novel operation of the combs of a skep being transferred to a frame-hive. This unusual incident was rendered necessary in consequence of the extreme heat having caused the combs in the skep provided for the lecturer to break away and fall down. The duties of judging the bee departments were undertaken by Messrs. F. J. Cribb, Retford; and J. R. Truss, Ufford Heath; the former also conducted an examination for the B.B.K.A., of a candidate for the 3rd class expert's certificate. The following awards were made :—

Twelve 1-lb. Sections.—1st, H. Beale, Andover, Hants; 2nd, R. Brown, Somersham; 3rd, H. Seamark, Willingham, Cambs.

Twelve 1-lb. Jars Extracted Honey.—1st, R. Brown; 2nd, H. Pears, Mere, Lincoln; 3rd, Thos. Blake, Broughton, Hants.

Twelve 1-lb. Jars Extracted Honey (County).—1st, H. Pears; 2nd and medal, Mrs. W. Cooke, Navenby; 3rd, E. Cherrington, Crowland; 4th, J. Palfryman, Gosberton.

Twelve 1-lb. Sections (County).—1st and medal, H. Pears; 2nd, Mrs. W. Cooke; 3rd, Dr. P. Sharp, Brant Broughton.

Six 1-lb. Jars Extracted Honey (Cottagers only).—1st, F. Harris, Sibsey; 2nd, W. Patchett, Thoresway.

Twelve 1-lb. Jars Granulated Honey.—1st, A. W. Weatherhogg; 2nd, W. Patchett.

Beeswax.—1st, Jno. Berry, Llanrwst; 2nd, R. Brown; 3rd, Dr. P. Sharp.

Two Shallow Frames of Comb Honey.—1st, R. Brown.

Observatory Hive with Bees and Queen.—1st, R. Brown; 2nd, D. Seamer, Grimsby; 3rd, Dr. P. Sharp.

Collection of Appliances.—1st, W. P. Meadows, Syston; 2nd, R. H. Coltman, Burton-on-Trent; c., E. C. Walton, Muskham.

Complete Frame-hive (price not exceeding 25s.).—1st, W. P. Meadows; 2nd, W. R. Garner, Dyke, Bourne; 3rd, R. H. Coltman.

Complete Frame-hive (price not exceeding 12s. 6d.).—1st, W. R. Garner; 2nd and 3rd, W. P. Meadows.

Favourable mention (and certificate to maker, W. P. Meadows) for the "W. H." Wax-mould.—R. GODSON, *Hon. Sec. Lincs B.K.A.*

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of June, 1900, was £5,306.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4035.] The season of harvest for the bee-keeper is fast speeding away, and the general inquiry now is, "How have your bees done this year?" Many who write for lace-paper send inquiries, hopes, and best wishes, and those coming from every corner of the realm put me in touch with a great number of bee-keepers, so that (with the exception of our Editors) I probably get a fuller knowledge than most other members of the craft regarding state of the honey trade and the prospects of the harvest. Present reports point to about a two-thirds crop. The past week of hot weather has raised our hopes again for a good wind-up with the limes, which are just coming into bloom. The bees were working busily on the blossoms late last (Sunday) evening, and again early this morning. St. Swithin's Day was one of glorious, brilliant sunshine, with just a nice breeze and scarcely a cloud to be seen, so that we did not get the "christening shower" for the apples.

Queen Introduction by Clockwork.—The "clockwork" dodge of queen introduction mentioned on page 246, invented by one whom I may call a "brother pivot," will work out

all right, I should think, especially if the cylinders come to a full stop when the exit slot comes opposite the passage into the hive; otherwise, if it still travels relentlessly on, it will decapitate the queen just as she is passing into the hive. I mention this risk because very often queens are some time before they leave the cage after the cage of ordinary pattern is opened and prepared for their exit by the bee-keeper. A very good makeshift could be made, I think, with one of the small "bee-clocks." The hour-wheel revolves once in twelve hours, and a small funnel spout would fit in the pipe of the hour-wheel, giving the required motion. The cylindrical cage may be made to suit the ideas of the introducer.

Non-Swarming Hives.—It would be interesting if some of our bee-keeping friends using these hives were to give their opinions on the "new idea?" I note that Mr. Meadows has arranged his non-swarmer so that the tops of the frames in the lower compartment form the floor for the brood-department. This leads me to ask, "Will the bees build brace comb between the bottoms of brood-combs and the tops of the frames below, and, if so, will the box of shallow frames *draw out* easily?" It seems to me that this extension of the "cluster" below will mean the extension of combs also.

Wax-Moths.—The month of July is a suitable time for waging war on these destructive creatures; wide-mouthed jam-jars, baited with a sweet solution, such as diluted wine-lees, or of sugar and water, will attract a large number of moths during the warm evenings. These "moth-traps," however, must be removed or covered over during the day-time, or they will prove veritable bee-traps also. A search should also be made around the super-covers on hives, and at the ends of the brood-frames, and also along the saw-cuts in top bars; this can easily be done when either adding to or removing supers. Quilts and wraps should also be carefully examined for any larvæ of the moth. All old combs should be rendered into wax as soon as removed from the hives. Above all, no weak colonies should be tolerated in the apiary. These (dummy) colonies are best cleared out, or, if of any value, united to others that need bees, so that they do not become centres for breeding moths which in time will ravage other colonies.

Hive-making.—I can fully endorse what Mr. Whitfield (4029, page 272) says *re* hive-sides being made to project above the tops of frames. For comfort in working, prevention of quilts being blown about, for conservation of heat of brood-nest, I have tried and possess many other styles of hives, but "Abbott's Combination" hive is, in my opinion, *the* hive, taking the year through. Then as regards size of frames, the "Standard" may be right for size, though I should advocate a rather deeper frame, though I now use standard size only—but I have had some made 1⅛ in. or 1¼ in. bare all round, and these contain my best combs, many of them as flat as a board, built, as Mr. W. says, inside the frame with no projections. I use Abbott's wide-shouldered frames principally, and after twenty years have no wish to change for metal ends, though I have some of each kind in use, so that mine is practical experience.—W. Woodley, *Beedon, Newbury.*

P.S.—Four p.m.—We have to-day (16th) had a thunderstorm, and the rain has revived the growing crops, washed the honey-dew off the foliage (which was increasing to a gatherable quantity), and "christened the apples." The sun is now shining again, the bee-keeper is thankful, and the bees busy and happy.

[We feel constrained to add a line here (by way of emphasising the remarks in our footnote on page 272) to say that while not in the slightest degree wishing to interfere with the perfect freedom all should enjoy in the exercise of their personal preferences—with regard either to hives or methods of bee-management—we once more repeat our assertion as to the views of "ninety out of every hundred practical men" on the question of projecting hive-sides. Besides, the issue is—no doubt unintentionally—confused by our friend Mr. Woodley forgetting that the hives dealt with were not "combination hives" such as he uses, but those holding ten or eleven frames, such as now in general use. And in the latter case, sides projecting above the frame-tops are, as we said, an intolerable nuisance in working surplus-chambers.

Editorial opinions carry responsibility and are not lightly expressed in these columns, therefore it is only fair that those who criticise those opinions should regard the question—as we have to do—from the exact standpoint raised by the letters to which a footnote is occasionally added. So far as regards Mr. Woodley's preference for the hives of twenty years ago over those of to-day none can justly object, but it is hardly complimentary to those who have striven in the cause of progress since 1880 to argue that no improvement in hive-making has resulted from their labours, and we are glad to think that not many are so conservative in their views.—Eds.]

BEE-NOTES FROM ESSEX.

DEALING WITH FOUL BROOD.

[4036.] A discussion upon foul brood was started in your pages a couple of months ago. I hoped at the time that the subject was in for a thorough sifting, and that some conclusions would be arrived at, but so far nothing definite has been reached. It is, however, a knotty and difficult matter to deal with either in the hive or on paper; very little interest was evinced in the subject, and for the time it dropped—through neglect it may be, but certainly it was not from the threshing-out it received. I am glad to see this subject brought forward again in your issue of June 28 (pages 252 and 254).

Though fortunate in keeping foul brood out of my apiary, I have had a good deal of experience of it in other districts, and the letters of Mr. J. H. Rogers and "J. H. S." respectively are very pleasing reading to me. Your medical correspondent deals with the necessity for thorough disinfecting of the manipulator's person and all appliances used by him in a way that those outside his profession would probably find difficult. Now that a discussion has again been opened upon this subject I do hope that it will be dealt with as the serious nature of the disease requires if any good result is to follow. This scourge to bee-keepers is likely to make headway this season owing to the late cold spring, along with the very changeable weather we are having at the present time; and if the already reported outbreaks are to be relied upon the disease is making progress quite unusual at midsummer.

We are absolutely without any organisation for dealing with foul brood in this country, except in an as-you-like sort of way. A Bill was drawn up and an endeavour made to get it brought before Parliament several years ago, but I am afraid that the labour of those gentlemen who gave much time and thought to the preparation of the Bill was for some reason wasted. I have gone into the subject as far as my small ability allows, and I quite believe that the Council of the B.B.K.A. could deal effectively with this matter, serious though it is. Anyway, I think the B.B.K.A. has more power than it has yet exerted for the purpose of dealing with foul brood. I think all bee-keepers should be required to join either the B.B.K.A. or one of the affiliated county associations, or otherwise remain outside and be described as "unattached" in any business transactions. All affiliated associations could reasonably be required to furnish a report to the B.B.K.A. from their expert in June and in October, giving details of all outbreaks of foul brood in their district, and the expert be required to examine every colony of bees kept by the members.

I know many bee-keepers will find it difficult to believe that such strong measures are really necessary for successfully dealing with foul brood, but I believe all those who have had much experience of the disease in other apiaries than their own will agree with me that nothing would conduce more to the general good of the pursuit in which we are engaged than that such steps be taken as will ensure success in coping with what threatened to deprive bee-keeping in many districts of all pleasure, to say nothing of profit. If we are to deal with foul brood with any considerable success we must set about it in a broad-minded spirit, and be willing to put up with some inconvenience for the good of the many.

In a district which I visited in an official capacity last spring 30 per cent. of the hives examined were affected with foul brood. Those who are unable to see the necessity for such strong measures as I have here advocated should think over this, especially of the small chance of successful bee-keeping there is even to the most watchful bee-keeper. They should think, too, of the difficulty of dealing with such an amount of disease without the help of some such power as, I believe, it is possible to secure in a much greater degree than heretofore. Their are other districts besides the one referred to above where foul brood is equally bad. I know one gentleman in a northern county who has over a hundred infected—but now otherwise empty—hives through the ravages of foul brood. We have to deal with this pest for the salvation of bee-keeping, which is no doubt a profitable pursuit, but in many cases bee-keepers must be saved from themselves and from their friends.—W. Loveday, *Hatfield Heath.*

AN OLD-TIME BEE MAN.

[4037.] "I remember" strikes a chord in the heart of most men, and memory loves to dwell amid the scenes of the happy past, with all its associations of light and shade. In the mind's eye I see once more as in a picture one such scene well worthy of a painter's pencil or a poet's pen. The scene itself was one of surpassing loveliness viewed from the æsthetic standpoint, but more interesting to me was the presiding genius who had tamed Nature's wild ruggedness and made it subservient to his use. But the point of chief attraction, the central pivot on which it all seemed to turn, was the cluster of old straw ruskies with the bees' busy hum sounding sweetly on the ear and the perfume of their heavy-laden stores permeating the summer air with an incense sweet as the balmy odour of some ideal island of the East. Grove and hedgerow, bank and brae, rock and scaur, with bosky dell and purling brook, give a variety conveying an impression of almost ideal perfection to the surrounding scenery. There the "lady fern grows greenest," flowers innumerable deck the lea and ornament every cleft in the rock, bluebells wave in graceful undulations responsive to every gentle zephyr, violets scent the balmy air, wild thyme forms a carpet fit for the tread of a queen, while the bubbling brook that "babbles by" sings a sweet lullaby. All else is quiet and silent as with a hush of calm felt only in a retired glen on a Sunday morning. Nature, animate and inanimate, seems to appreciate the day of peace.

Coming suddenly on this scene from across a bleak and bare moorland my first introduction to it showed it at its best and in its most ideal aspect. Scrambling down the sides of the "bosky dell," the brook was crossed on stepping-stones, and we mount the further side on a carpet of moss and grass decked with "all sorts and conditions" of flowers. *Then* we could roll amongst them and drink our fill of their sweets, for happy boyhood has no cares. *To-day*, viewing the same scene, there

seems to be a double sense of enjoyment—the memory of the past and the actual feeling of the present. I think that nowhere else can one so fully forget the cares of the world as when thus reposing in some quiet woodland shade on the lap of flowers entranced with all their beauty of form, colour, and perfume. There reposing the mind calls up kaleidoscopic glimpses of the past almost involuntarily, and they are pieced together to form one homogeneous whole.

Alas! the presiding genius of the scene, he who gave to it life and beauty, shape and form, who tamed Nature and brought order out of chaos, whose love of all that was good and true, pure and lovely, has looked his last on all this scene. Yesterday he was: to-day he is not! On this peaceful summer day, ideal in its loveliness, amid all these beauties of Nature and culture he lies still. The garden-path, bordered by its wealth of never-failing cottage favourites, shall know his tread no more. These flowers he tended so lovingly were his joy and pride, but, alas! they are now untended. His usual haunts—the rustic seat before the cottage window—the grassy lawn near the hives, the rustic honeysuckle-covered arbour have gone from him, for "after life's fitful fever he sleeps well." When we first knew him he was an "ancient of days," and the 50-lb. or 60-lb. skeps at "taking down" time were beginning to be a burden to him. He had fought for his Queen and country in every continent and retired to this lone spot, where he squatted down without leave asked or granted, and without either lease or fee had built himself this rustic cottage and tamed a small plot from the rough hillside. How we schoolboys loved him—many of us, no doubt, for the tales of flood and field he so well recounted! But many of us loved him for himself, and I feel certain that the evening of his life was smoothed and comforted by kind remembrances from many. Gardening was a passion with him, and as for his bees, he treated them as if they were sentient beings. I do not know however he found it possible to "brimstone" them, but he did it as coolly and callously as if they were of no account. Perhaps the nervous state he wrought himself into for two or three days while getting the sulphur-cloths ready, digging holes for the fatal work, and making other necessary preparations were evidences of an inward working of remorse; but certain it is on no other occasion have I ever seen my old friend showing any signs of irritation. He had gone through all his wars without a single wound, but his features were seamed and scarred with many a rough tussle; yet inwardly his heart had remained soft and tender as a girl's. Woe betide the "loon" who would dare to show any disrespect to our hero. Tarring and feathering would be a mild punishment compared with what would have been meted out to any such transgressor. When I first knew him he had passed the allotted threescore-and-ten, and during my acquaintance with him of over twenty years, broken and intermittent though Fate decreed it should be, I was the only "boy," he often said, he had helped to make a bee-man. Well, he is gone, and I can safely say—*Requiescat in pace.*

But any description of the scene and the man would be incomplete without some notice of the bees and their domiciles. They were all straw hives, and the greater number of them, as well as everything about them, were his own work. Rough and amateurish at the best, time had dealt unkindly with them, and all degrees of age and decrepitude were visible; yet they seemed in harmony with the rustic surroundings, and added an additional air of picturesque completeness to the whole. Crockery-ware, tin-ware, boards, felt, and iron contributed to make them weather-tight during the long and trying winter, and Nature had sheltered them well from the blast that blows from "off the nor'land hills sae hie." Frequently they numbered forty or fifty in the month of August, but September generally saw them reduced to the favourite number of thirteen. Rarely, if ever, was one of them lost during the winter, as all the colonies kept were either swarmed stocks or casts with just sufficient stores to tide them over winter and early spring. Renewed as they thus frequently were, their owner never knew foul brood. He would never have anything to do with "boxes," though I know for a fact more than one would have been only too willing to "gift" him one or more of these, but he always declined. I never knew of his introducing new blood, and all his colonies had sprung from a single swarm. Yet they were always the picture of health and life.—F. E. I. S., *N.B.*, *July* 7.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In presenting a view of Mr. Dear's apiary, his cheery words, notwithstanding his physical affliction, regarding the pleasure he derives from bee-keeping need no addition from us. He says:—

"Although only a beginner, I thought perhaps you may find room in your valuable journal for my 'Home of the Honey Bee,' together with a word or two about myself and my bee-keeping. For some years I have been interested in reading about bees, but not until last year was I able to take any really active part in the pursuit owing to a hip complaint from which I have been suffering now for about seven years. But, when I tell you my experience with the bees last year, you will know that I am now happily able to 'dodge about' with them a bit (with the help of a stick). First, then, I would say for several years my father has kept bees in bar-frame hives of his own make (he being a carpenter), and when I was able to get about I commenced operations with them last year on the strength of what I had packed into my head by reading

your journal, and being a member of the Wilts Bee-keepers' Association, I gained a good deal from the Rev. Mr. Burkitt, the expert. We had eight hives, part of which you can see in the photo. As the space in our cottage garden is somewhat limited, you will no doubt notice that the hives are rather cramped for room; at the same time, I am pleased to say they were last season also "cramped" inside for space (for honey-storage room). I worked mostly for extracted honey. The best hive gave me about 100 lb. of this, besides one rack of sections, and the other hives yielding from 60 lb. to 100 lb. each. I managed to secure some splendid fruit-blossom honey quite early. I was also very successful as an exhibitor, taking

MR. W. G. DEAR'S APIARY, MIDDLE WOODFORD, SALISBURY, WILTS.

first in open class and first in cottagers' class at our local show. I also sent some to the Castle Douglas, N.B., show, and being the first I had sent away from home, I was naturally very much surprised to find that I had won first prize and silver medal in open competition at that notable Scotch show. This led me to think I knew a little about the business, so I entered in both light and dark honey classes at the Dairy Show. I took fifth for dark and v.h.c. for light. I also took several other firsts during the year. The hive on the right of picture is an observatory hive, also made by my father. It holds eight frames of the standard size.

"I ought to say that we keep the village post-office, together with a small shop, and any customers who wished could see the bees working in the observatory hive, and were then usually induced to purchase the honey in the shop. Our honey sells very readily at prices varying from 6d. to 1s. per lb. according to the quality.

"Referring to your request for some particulars about my bee-keeping and prospects for the present year, I may add that my hives (eight in number), having wintered all right, were all fairly strong in April, but owing to cold easterly winds during the greater part of May, the bees got very little from the early bloom; but towards the end of May the weather began to change for the better, as also did the bees, for they set to work with a real good will, in shallow frames and sections, and honey soon came in very fast.

"I think the main thing is to keep your hives strong, and see that you are commencing the season with good young queens, and have everything to hand, in good time, ready for the honey when it comes in. I believe in plenty of nice dry packing in the winter and a covering of galvanised iron to shoot the wet off, and having seen to this, I am all ready, hoping for a good season.

"I have only two swarms this year, both of which are doing well; and I hope, if the weather continues to be favourable, that we shall this year have a good honey harvest. I believe the general cry around this district is that the bees have dwindled a good deal this spring, especially where they have not received attention and a little feeding at the proper time, but this will always happen."

Queries and Replies.

[2453.] *Queenless Swarm.*—About a month ago a swarm issued from one of my hives and took possession of an old hive standing by, which contained seven or eight frames with about an inch of old comb in each. I covered the bees down properly, but on going to examine them a day or two ago I found the bees very weak and could not find the queen, nor were there any eggs to be seen, or sealed brood, but there was honey stored in the top of combs, and there was something in the cells about the middle and bottom of combs with a very nasty sour smell. Would this be foul brood? I think I could have told whether it was foul brood if there had been any sealed brood in it. I ought to say there were two nearly finished queen-cells to be seen: would you advise destroying the stock, as it is now very weak in bees?—M. Piper, *Conway, July* 13.

Reply.—So far as regards foul brood, we cannot judge without seeing a sample of the contents of cells described as having a "nasty sour smell." The other details given point to it having been a second swarm that entered the old hive, and that the young queen at its head subsequently met with some mishap after leaving the hive on her mating trip. If there is no disease in the hive, the question of destroying the bees is mainly a sentimental one to be decided by your being able to utilise them to advantage or not.

[2454.] *Disinfecting Frames of Foundation.*—I have just found that several of my stocks of bees are infected with foul brood; these I shall destroy at once, but as some of them were supered with frames fitted with full sheets of foundation, and the combs are not drawn out, I would ask: 1. Would it be safe to use them again, or had they better be melted up? 2. Is the naphthaline enclosed the right kind for putting in the hives of healthy stocks as a disinfectant?—T. C., *Gloucester, July* 13.

Reply.—1. If the frames of foundation are fumigated with burning sulphur and afterwards sprayed with naphthol beta solution they will be quite safe for using again. 2. Naphthaline, as sample, will answer the purpose, but there is no means of regulating the dose, as when in balls of suitable size. This is important, as an overdose is liable to kill the brood.

[2455.] *Queenless Swarms returning to Hive.*—On Friday, the 6th inst., when taking a look round at the supers on my hives—which latter are all numbered—I found those of No. 1 were deserted by the bees, from which I inferred that the hive had swarmed on the previous day, which was bright and sunny. However, on going down again on the following day I found a fight going on at the entrance to No. 2 hive, a lot of dead bees lying about. I administered some smoke, which quietened them down and evidently stopped the fighting. No. 1 hive at this time had a large crowd of bees flying in front and running about the entrance, but not fighting. No. 2 is a very strong hive, so it could not be "robbing" that caused the commotion there; but after the battle the bees in both hives seemed to have considerably increased in numbers, the super of No. 1 having a lot of bees inside. I therefore ask: 1. Am I right in saying that No. 1 did swarm, and the swarm subsequently returned and tried to enter both hives? 2. Would it be necessary to examine the hives to see if the queens are all right? I do not wish to disturb the supers unnecessarily, and will defer further operations till I see your reply unless signs of further swarming appear.—W. J. Fraser, *Cupar, N.B.*

Reply.—1. Your idea as to the cause of what took place is most probably right in the main. The swarm may have been hived by some one and the queen killed through awkwardness in hiving, or the bees may have missed their queen after hanging clustered somewhere for a day. In either case the queenless bees would eventually find their way back to the old place as shown. 2. If the work of both stocks goes on all right, and pollen is carried in, there will be no need to examine, as it will be safe to assume that all is well.

[2456.] *Vagaries in Swarming.*—I am sending a dead queen for inspection. It came from a stock of Italians which sent out a swarm on June 30. The bees settled in two separate clusters and thinking there must be two queens with the swarm I hived them separately, putting each lot in one of the two compartments of a "Wells" hive. The bees, however, of one compartment deserted the first night and passed to the other side. On the following day they commenced flying to and from the parent hive in a regular stream. On examining the "Wells" hive I could not see the queen or any eggs, and therefore returned the swarm to the parent hive. I afterwards looked over the combs of the latter and found a young queen and only one queen-cell from which she had come forth. This leads me to ask: 1. What made the swarm settle in two separate clusters? 2. Why did the bees desert the "Wells" hive? 3. Would the old queen have got lost? I found the queen enclosed on the flight-board on the morning of the 8th. 4. What caused her death? I don't know of any Italian bees being kept near here except my own.—Walter Pollock, *Port Glasgow, N.B., July* 9.

Reply.—1. It is not at all uncommon (especially with Italians) for swarms to settle in two or more clusters when swarming. We have had a swarm of these bees form four or five clusters with only one queen to the lot. 2. Because of one lot being queenless. 3 and 4. If you have correctly described what

followed, there must have been more than one queen-cell in the parent hive. The dead queen sent is a virgin, and two queens cannot have issued from one cell. The most feasible explanation we can offer is that the old queen has issued from the hive unseen with a top swarm some days before June 30, and from some mischance has got lost; in consequence the bees returned to the parent hive This would cause them to issue again later headed by one of the newly-hatched queens, and as you returned the swarm to the old stock after occupying the "Wells" hive for a day, the two young queens fought for supremacy and the battle ended in the "survival of the fittest." You should examine the combs for eggs and brood so as to make sure the young queen is safely mated.

[2457.] *Requeening Stocks in July.*—I have a frame-hive occupied by a swarm got in July, 1897. They only yielded fifteen sections last year. I wintered the bees on nine frames, and they had plenty of sealed honey on two frames this spring. On May 28 I put on a rack of sections, many of them being full of clean comb, but although the bees have "taken possession" of the sections they have done nothing in them. 1. Can you say why this is so? A week ago I found a large quantity of imperfect drones and cappings thrown out in front of the hive, while I have not so far seen any drones flying from the hive. 2. What is the cause of the drones being thrown out? 3. Should not this hive have raised a young queen to replace the old one of 1897? 4. Would it be any use to requeen now with a virgin or fertile queen? The bees are still carrying in pollen. An answer through the useful B.B.J. will oblige.—J. H, *Holywood, Belfast, July* 9.

REPLY.—1. The natural inference is that bee-forage is scarce in your district. One thing is certain, viz., if bees are strong in numbers and in possession of sections they will store honey in them if weather is suitable and the nectar-yielding blossoms are within reach. 2. The casting-out of immature brood is another indication that honey is scarce, and that in consequence the bees get rid of prospective non-producers of food in the way stated. 3. There is no reliable guide with regard to bees superseding queens. They usually do it, but not always, when the mother-bee becomes "aged" or worn out, and at times the old queen is tolerated in the hive so long that her egg-laying functions are taken up by a fertile worker, to the ruin of the colony. 4. The stock might be requeened with advantage in view of next year's work, but it is not too late to expect surplus this season from a failing stock in July.

[2458.] *Beginners and Transferring Bees and Combs.*—I have started bee-keeping, and, knowing your willingness to assist beginners, I am tempted to ask for a little help in the following circumstances:—I bought a swarm of bees in a skep, and at once ordered a frame-hive to put them in; but the latter did not arrive till the bees had nearly filled the skep with combs. However, when it did come, on June 27, I proceeded to get the bees and combs transferred to their new home. I began by cutting out some of the combs containing brood and tying them in two of the frames. Then, after driving the bees, I ran them in and left them until the 8th of the present month, when I examined them, and, to my surprise, found that the bees had done very little work since I transferred them. I have cut out and am sending a piece of the new comb they had built for your inspection, but after being eleven days in the new hive there is no brood beyond that which I tied in the frames when transferring. Will you kindly tell me where I did wrong, and what will be the best thing to do in setting matters right? Do you think the queen got damaged when transferred?—A. PRIESTLEY, *Queensbury, Bradford, July* 9.

REPLY.—The newly-built comb contains some pollen, but neither eggs nor brood, and we are forced to the conclusion that the queen, if still in the hive, has been injured during the operation of transferring. It is to be regretted that the help of some friendly bee-keeper was not available at the time, because of the experience and care necessary in so delicate an operation as the one referred to.

[2459.] *Supering Swarmed Hives.*—In March this year I bought a stock of bees in a frame-hive, but did not super it, and the bees swarmed on June 26. They were hived in a frame-hive fitted with brood foundation, and appear to be doing very well. On July 1 a second swarm issued, which I hived in a flat-topped straw skep; and they appeared to be going on all right until the morning of the 8th, when I noticed the floor-board was covered with dead bees. I did not feed either of the swarms, and, this being my first attempt at bee-keeping, I am at a loss to know what is wrong. 1. Can you enlighten me? 2. I supered the old hive the day after the second swarm came off. Do you think I shall have any honey this year?—ERNEST E. PENNETT, *Thornbury, Bradford.*

REPLY.—1. The probability is that a day or two of adverse weather after hiving has caused some loss of bee-life through want of food. Swarms should always be fed for a few days after hiving (as directed in "Guide Book") unless honey is plentiful and weather fine. 2. You did wrong in supering the parent hive in July after two swarms had issued from it; and it may be taken as a general rule that hives will not yield swarms and surplus honey in one and the same season.

Echoes from the Hives.

Honey Cott, Weston, Leamington, July 16.—"Busy as bees" has been more than verified to-day; the bees have been on the rush all

day long. There could be no mistake—they were going for all they were worth. The bean blossom is all over, meadows and fields are mown. A second crop of clover is in the near future (I hope). Several acres of "cadlock" are in full flower, just in its prime, while an avenue of small limes is just breaking into bloom and has simply been roaring with bees. We have also some nice patches of melilot clover in an allotment I have, which are just coming into bloom, and have received a fair share of attention from the bees. Although yesterday was St. Swithin's Day we have had no rain, nor anything approaching it. I have been up amongst the bees several times to-day, and they were all too busy to be cross, or to make any attempt to molest one.—JOHN WALTON.

Bee Shows to Come.

July 23.—Caergwrle Castle Flower Show. Open class for six 1-lb. jars of extracted honey. Schedules from H. S. Davies, Abermorddu, Wrexham.

July 24 and 25, at Stafford.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show.

July 26, at Loughton, Essex.—Honey Show in connection with the Loughton Horticultural Society's Annual Exhibition. Five classes for honey and one for wax, open to the county of Essex. Entry fee 6d. Schedules from G. F. O'Fflahertie, Monghyr Cottage, Loughton. **Entries close July 20.**

July 27, at Driffield, Yorks.—Driffield and District B.K.A. Show, in conjunction with the Driffield Agricultural Society. Eight open honey classes.

July 31, at Ely.—Honey Show in connection with the Cambs and Isle of Ely Agricultural Society. Several open classes. For schedules apply to C. N. White, St. Neots.

August 1, at Henbury, near Bristol.—Annual Show of the Henbury District Bee-keepers' Association. Open classes with liberal prizes for "collection," twelve 1-lb. sections, twelve 1-lb. glass jars, single 1-lb. section 1-lb. jar, wax, granulated honey, &c. Schedules from C. A. Newman, Hon. Sec., Henbury. **Entries close July 24.**

August 1, at Yatton (Som.).—Bristol, Som, and South Glos B.K.A. Annual Show in connection with the North Somerset Agricultural Society. Five open classes, including one for single jar and single section (with free entry). Good prizes. Schedules from W. T. Tarr, Hon. Sec., 42, North-road, St. Andrew's, Bristol. **Entries close July 25.**

August 2, at Ramsey (Hunts).—Annual Show of the Ramsey Horticultural Society. Open class for honey, 1st prize £1 1s.; 2nd prize, 10s. Schedules from F. Rowell, Secretary, Ramsey (Hunts).

August 2, in the Grounds of Compton House.—Annual Show of the Yetminster District B.K.A. Open classes for single 1-lb. section and also for 1-lb. glass jar of extracted honey (entry free). Schedules from G. Leeding, Hon. Sec., B.K.A., Bradford Abbas, Sherborne, Dorset. **Entries close July 29.**

August 2, at Market Drayton.—Honey Show in connection with the Market Drayton Horticultural Society. Two open classes, twelve 1-lb. sections and twelve 1-lb. glass jars run honey. Prizes in each class, 15s., 10s., 5s. Schedules from W. Woodburn, Secretary, Market Drayton. **Entries close July 28.**

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from H. Tolson, Park House, St. Thomas, Exeter. **Entries close July 28.**

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead.

August 4, at Helsby, Cheshire.—Annual Honey Show in connection with Flower Show. Two open classes. Schedules from Dr. Briant, Helsby, Warrington.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday), **at Lichfield.**—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Two classes for members of the Staffs B.K.A. Open classes for dark honey and wax, and two for cottagers. Two medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations in Bee-tent of Worcester C.C. by Rev. E. Davenport.

August 6 (Bank Holiday), **at Melton Constable Park.**—North Norfolk B.K.A. Annual Honey Show in connection with the Horticultural Exhibition. Schedules from Hon. Sec., C. J. Cooke, Edgefield, Melton Constable. **Entries close July 28.**

August 6, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Marlow, Bucks.—Annual Show in connection with the Marlow Horticultural Society, under the auspices of the Berks B.K.A. Bees, hives, and appliances; honey, &c. Twelve open classes. Liberal prizes. Schedules from A. D. Cripps, High-street, Marlow. **Entries close August 4.**

August 8, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1 lb. section and single 1 lb. jar, with no entry fee). Schedules from J. P. Inkpen, Neston, Corsham, Wilts.

August 9 at Madresfield.—Worcester B.K.A. Show of hives and honey in connection with the Madresfield Agricultural Show. Seven open classes. Schedules from John P. Phillips, Spetchley, Worcester. **Entries close August 6.**

August 16, at Abergwili.—Honey Show in connection with the Horticultural Exhibition. Open class for single 1 lb. jar Prizes 10s., 7s. 6d., 5s., 2s. 6d. (no entry fee). Exhibits to reach the Secretary not later than August 14. Schedules from J. Jones, 3, Gifregardens, Abergwili, R.S.O.

August 16, at Goole.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 11.**

August 25, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and for appliances and wax, also for single jar and section, with free entry. Twenty other classes, for Scotland only. Liberal prizes. Schedules from Jas. Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 15.**

August 29, in St. John's Schoolroom, Blackpool. Annual Show of the Blackpool and Fylde Horticultural Society. Exhibition of honey under the auspices of the Lancs. B.K.A. Open classes for twelve 1-lb. sections and twelve 1-lb. jars extracted honey, with prizes of 20s., 10s., and 5s. each, also for single 1-lb. jar (no entry fee). Schedules from R. E. Stirzaker, Sec., Reddar-lane, South Shore, Blackpool. **Entries close August 20.**

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close August 8.**

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes." Liberal prizes and medals. Twenty classes in all. Schedules from James Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** Schedules now ready. (See advertisement on p. vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

S. Cook (Wallington).—*Remedies for Bee-Stings.*—We are much obliged for Press-cutting sent, and if it were not that experience has shown the fallacy of putting forth certain remedies as "infallible," we should be pleased to publish the particulars. The juice of the plantain leaf as "a simple remedy for bee-stings always at hand" is an old one, just on a par with many others we could name, such as the dock-leaf, tobacco-juice, moist earth, the "blue-bag," ammonia, washing soda, and others. But when the no doubt well-meaning writer mentioned describes the juice of a plantain leaf "as curing a bee-sting as absolutely and instantaneously as water quenches fire," it is, to say the least, misleading. As a matter of fact, we know of cases where the so-called remedy referred to has had no effect whatever in the desired direction. Therefore—whatever other and less purely technical journals than ours may allow to appear in their pages—we could not publish statements like these without our expressing more than doubt as to the efficacy of the remedies mentioned. If they could be relied on the B.B.J. would welcome such and gladly make them known to all bee-keepers within our influence. Experience has shown that what may serve as remedies for bee-stings in some cases have no effect whatever in others. Hence it is that few practical bee-men use them.

A. B. B. (Essex).—*Races of Bees.*—The two worker-bees received are of the ordinary variety with a very slight trace of foreign blood. It does not, however, follow that the virgin queen accompanying them is of the same parentage. You had better defer complaining to the seller until some brood of the so-called Italian queen hatches out and thus affords a better chance of judging.

W. Barlow (High Wycombe).—*Honey Sample.*—The honey is very good in colour and fairly so in flavour, but it is too thin to stand much chance at a "big show." Why not try it at a local show first?

Bridgefield (Carmarthenshire).—*Insect Nomenclature.*—The specimen is an immature example of the privet hawk-moth (*Sphinx ligustri*). It is not an enemy of the honey-bee.—(F. W. L. S.)

S. F. (Wilts).—*Sending Bees in Frame-Hives by Rail.*—1. During the present abnormally hot weather it would be sheer folly for any one with no experience to risk sending combed hives and bees by rail. Above reply meets all your other queries. It is most helpful to have the combs wired as stated, but, even so, the heat is too great for the risk. If deferred till the temperature is lower, we could give some advice as to packing; but it would be true economy to entrust the work to an experienced man, especially as surplus-honey in supers has to be dealt with.

C. B. C. (S. Devon).—1. The "disease" mentioned on page 280 was foul brood. 2. Bees four miles away from an affected apiary are not in much danger of infection. 3. No. 4. The poison of the bee's sting is formic acid.

L. Q. (Isle of Man) "*Glassing*" *Sections.*—1. Mr. Woodley described his method of "glassing" (or glazing) on page 303 of B.J. for July 30, 1896, as follows:—"In the operation of fixing, rest the section of honey flat, or slanting, to suit your convenience in handling, lay on glass, and then gum the paper strip (cut to 17 in.); fold it round, and then turn it down. Practice will make perfect in this. Most use thin glue; some use strong paste. Possibly 'Stickphast' may do very well for the job." 2. Those who have not the time for glassing could use the new registered lace-paper section-case, which may be had from most dealers.

Suspected Combs.

We must earnestly request inquirers as to suspected combs to send a small piece containing brood only (no running honey) as sample, and to refrain from poking into almost every cell before despatching. The comb should also be sent as taken from the hive, and carefully packed in a small *tin* (not cardboard) box, such as will travel by letter-post for a penny stamp.—Eds.

F. S. (Nantwich).—Of the three samples sent No. 1 is "pollen-choked," and,

in consequence, useless to the bees for either breeding or storing. No colony can make any headway in hives with such combs. We cannot judge with regard to disease from such a sample. No. 2 has hard old pollen in a few cells, and no trace of brood in the rest. No. 3 had a few sealed cells, the contents of which, being quite dried up, showed nothing to the naked eye, but when placed under the microscope (with a one-twelfth objective) revealed spores of foul brood in thousands. It is impossible to have healthy colonies of bees in old hives furnished with such combs as those from which samples were taken. All combs and frames should be burnt and the hives disinfected before using again.

A. B. U. (Berks).—The contents of sealed cells had completely dried up, but in remaining scale on cell sides foul-brood spores were found in plenty.

ANXIOUS BEE-KEEPER.—Comb smashed flat in post and unfit for examination, but we saw enough to make it advisable not to use the other combs for driven bees.

**** *We are again compelled to defer insertion of some interesting articles now in type and replies to queries till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SECTIONS, well-filled and clean, 8s. per doz. F. GARNETT, Well, Bedale, Yorks. A 17

24TH YEAR.—SWARMS with tested Queens, 5s. 6d., cases free. ALSFORD, Expert, Blandford. A 16

TAYLOR'S best WAX EXTRACTOR, new, perfect condition, 9s., packed. E. GLOSSOP, Ambergate.

WANTED, Solar Wax-Extractor, perfect, cheap, for cash. Particulars, ELSE, Ambergate, Derby.

QUEENS from selected non-swarming stocks, in introducing cages, 4s. 6d. each, post free. E. GLOSSOP, Ambergate A 11

WANTED, HONEY. Exchange Taylor's 60-Egg Incubator, new. RUSSELL, Basket Shop, Christchurch. A 15

TWO strong NUCLEI, with Fertile Queens, four frames, 11s. each. Guaranteed. WOODS, Normandy, Guildford. A 10

GOOD, healthy SWARMS, 5s. each, packing free. Immediate despatch. ALFRED GOULD, Henley-in-Arden. A 9

FERTILE young CARNIOLAN QUEENS, untested, 4s. 6d.; with nuclei, 12s. FRANK REED, Portslade, Sussex. A 8

FINE tested 1900 FERTILE QUEENS, 3s. 6d. each. Post free. Guaranteed healthy and safe arrival. C. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. A 18

DRIVEN BEES.—Orders now booked. August 5s., September 4s. per stock, including queen. Packed free and on rail. PHILLIPS, Spetchley, Worcester. A 14

FOR SALE, about 6 cwt. this year's HONEY, fine colour and flavour, 6d. per lb. Sample free. Deposit system. CAPTAIN ORD, Fornham, Bury St. Edmunds. A 7

HEATHER HONEY SEASON.—Best quality 1900 laying QUEENS, 5s. each; two 9s. Virgin Queens, 2s. 6d. each. 3-frame Nuclei, with young laying Queen, 10s. 6d. and 12s. 6d. each. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

ELEVEN STOCKS BEES in Frame Hives, Six STOCKS in Skeps (guaranteed healthy), Extractor, Ripener, Supers, Excluders, Frames, "Guide Book," Smoker, Feeders, and quantity finest Honey. S. FULLBROOK, Oare, Pewsey, Wilts. A 13

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FIRST-CLASS English Fertile and Virgin Queens also Hybrids, Ligurian, raised from selected mothers by an experienced queen breeder. Nuclei with young queen, also first-class Stocks. Prices on application to SMITH'S APIARY, Oxton, Birkenhead.

ITALIAN QUEENS FOR SALE, 5s. 6d. each. W. A. TAYLOR, Poplars, nr. Luton. 995

WANTED, BEE APPLIANCES in Exchange for Boat or Canoe. FORD, Wharf House, Leek, Staffs. 989

ENGLISH QUEENS (tested), of my selected stock, 5s. each. W. WOODLEY, Beedon, Newbury.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. HORSLEY, Merridale House, Top of Castle Drive, Isle of Man. 932

HONEY LABELS, 250, with your address, 2s. 3d.; 500, 3s. 9d. Cartons for Comb Honey, 100, 5s.; 250, 10s. 9d. Large size Bingham Smoker, 3s. 2d. Carriage paid. GUEST, Kings Norton. A 2

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NOVELTY! First Prize, "Royal," York, 1900. "W.H." WAX MOULD. Casts 6 lb. in 2, 4, or 8 ounce cakes. Price 4s. from Rev. W. HEAD, Brilley, Whitney-on-Wye, Herefordshire. 992

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

PROLIFIC QUEENS, Blacks, 3s. 6d. Carniolan and Italian, home-breds, 5s.; Virgins, usually on hand, 2s. 6d.; Nuclei with Queens of any variety. Swarms and Stocks. Write for particulars, E. WOODHAM, Clavering, Newport, Essex. 986

BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. EDWARD REYNOLDS, Glove Manufacturer, Andover.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2⅞, 3, and 3½ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 9d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps W. WOODLEY, Beedon, Newbury.

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FURNISHED OR UNFURNISHED,

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Ramsey (Hunts) Horticultural Society.

THE ANNUAL SHOW

of the above Society will be held in the

ABBEY GROUNDS ON

THURSDAY, AUGUST 2nd.

Open Class for Honey—1st Prize £1, 2nd Prize 10s.

For schedules and Entry forms apply to F. ROWELL, Secretary, Ramsey, Huntingdon.

FOR SALE, BEES, HONEY, HIVES, and APPLIANCES,

New and Second-hand, Cheap.

SPECIALLY CHEAP, well-made HIVES, catalogue price (new) 24s., for 18s. to effect a speedy sale.

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Editorial, Notices, &c.

YORKSHIRE AGRICULTURAL SOCIETY.

SHOW AT DONCASTER.

The annual show of this Society (which for Yorkshire bee-keepers is the great event of the year) was held on the Doncaster racecourse on July 18, 19, and 20. It may, speaking generally, be summed up as a great disappointment, the attendance showing such an alarming falling off that those critics have been fully justified who foretold disaster should two big shows like the "Royal" and the "Yorkshire" be held within a few miles and weeks of each other. Events show that they should have amalgamated.

When, however, we turn to the bee-tent and its splendid audiences listening to the able lectures of Mr. Fred A. Pay (an official of the Yorkshire B.K.A.), who was assisted by Mr. W. Dixon; or to the capital exhibits in the honey classes, or to the collections of apicultural appliances, one cannot restrain a feeling of pride at the exhibited results of unobtrusive toil during the years past.

In the "collection" class, Mr. R. H. Coltman staged in his collection an extractor for which he claims improvements on any yet exhibited. In the same class, Messrs. Jemeison & Baker show the "W.B.C." and "Wells'" hives well up to date.

It will be seen that Mr. Dixon keeps his usual place at this show, capturing seven out of the fifteen prizes offered.

It was noticeable that the hint given in B.B.J. as to frames in body-boxes being flush with the hive-sides has been taken by exhibitors, who will in future probably only make the sunken frame-top hives to order.

Mr. Dixon secured both prizes for observatory hives, either of which would be much improved by the adoption of the contrivance for feeding and observation so noticeable in the "Royal" 1st prize hive.

There was a capital exhibit of good sections and of extracted honey, the latter, however, being very thin, no doubt in a great measure owing to the excessively hot weather.

The Rev. Sidney Smith showed an exhibit of wax in marketable squares which is deserving of special notice.

The annual meeting of the Yorkshire B.K.A. was held on the morning of the second day of the show in an adjoining room to the bee-department, when the usual routine of reading minutes, passing accounts, &c., were gone through.

The duties of judging were performed by Mr. J. P. W. Lightfoot, of Pickering, who made the following awards:—

Collection of Hives and Appliances.—1st, W. Dixon, Beckett-street, Leeds; 2nd, Jemeison & Baker, Dringhouses, York; 3rd, R. H. Coltman, Burton-on-Trent.

Complete Frame-Hive.—1st, R. H. Coltman; 2nd, W. Dixon.

Observatory Hive, with Queen and Bees.—1st and 2nd, W. Dixon.

Display of Honey.—1st, W. Dixon; 2nd, R. H. Coltman.

Twelve 1-lb. Sections.—1st, W. Dixon; 2nd, R. J. Dean, Hempholme, Hull; 3rd, H. F. Beale, Andover, Hants; h.c., H. Seamark, Willingham, Cambridge.

Twelve 1-lb. Jars Extracted Honey.—1st, H. Pears, Mere, Lincoln; 2nd, W. Dixon; reserve, C. B. Elmhirst, Knaresborough; h.c., T. Blake, Broughton, Hants.

Beeswax.—1st., Jno. Berry, Llanrwst, N. Wales; 2nd, Mrs. E. Berry, Llanrwst; reserve and h.c., Rev. Sidney Smith, Wheldrake Rectory, York.—*Communicated.*

BIOLOGY OF THE HONEY-BEE.

A FEW FACTS INTENDED AS A CONTRIBUTION THERETO.

By R. H. Hamlyn-Harris, F.R.M.S., F.Z.S., F.E.S., &c.

One always hesitates to give expression to anything not perfectly clear to one's own mind in every respect, but a recent pamphlet of seventy-eight pages entitled "Sind die Bienen Reflexmaschinen?* by H. von Buttel-Reepen-Jena, compels me to place on record a few more facts, intended as a contribution to the biology of the honey-bee.

Herr von Buttel-Reepen shows himself to be a master in the work he has set himself to do, a task surrounded with overwhelming difficulties of one kind and another, and further, a task requiring quick perception, coupled with that sense of correctness of minute detail which is the gift of but comparatively few. The book is divided into various chapters in which the author assigns to himself the labour of answering questions of no less importance because of their familiarity to us. Amongst other matters, he alludes to and discusses seven various senses of smell which he considers come into play during the daily life of the honey-bee. They are as follows:—1. Distinctive individual smell. 2. Distinctive collective smell. 3. Brood and food smell. 4. Drone smell. 5. Wax smell. 6. Honey smell. 7. Nest smell. It is, of course, impossible to go into detail here, nor can I exactly regard these expressions as new, for though, perhaps, not actually in print, they have been familiar to us for many years. However, to those who are able to read the book† I can thoroughly recommend it as being exceedingly interesting. Presuming there are no more than seven distinctive kinds of smell as stated above, I am at a loss to know which of them I ought to ascribe a very singular

* Somewhat literal translation in English, "Are the bees automatic machines without senses?"

† The book is published by Arthur Georgi, Leipzig.

coincidence which produced a great impression on my mind at the time.

During my recent work of the previous summer, I preserved and prepared a great quantity of bees' eggs for examination, each one of which had, of course, to be separately removed from the cell with the greatest care. In order to procure these I adopted the general plan of hanging in the hives empty frames of drawn-out comb, which were taken out and replaced as occasion and opportunity presented itself. It was during the continual withdrawal and replacing of these frames that my attention was drawn to the fact that after the queen-bee had laid eggs in one frame and those eggs were removed and the frame subsequently replaced, the queen refused to lay in that frame again until a seasonable time had elapsed. I noticed, however, that if allowed to remain the cells were invariably filled with nectar.

My suspicions were thus aroused, and being convinced in my own mind of the facts of the case, I inserted a frame only partially built out; the eggs (drone eggs in drone comb) were extracted on the following day as usual; the frame was then replaced, with the result that not a single egg was laid in the old cells, but only in those which had since been drawn out by the workers. I repeated this experiment no less than four times, with the same result each time—the difference in the colour of the new comb enabled us to notice the limit of each section, and to differentiate in a quite distinctive and marked way—until finally the whole comb was used for the storage of honey.

I think we cannot fail to attribute to the queen-bee a distinguishing, nay, more of a discriminating smell, not merely for her progeny, her home, her belongings, but that which enables her to determine without sight? without touch? the fact that she has during some time or other of her existence committed an act, which must either be so fresh in her memory, or else which must be conveyed to her sense of perception by her olfactory organs, and that nothing will cause her to swerve from the path of duty she has chosen.

Akenside says of the "standard of taste"—and may we not say the same of the sense of smell—speaking volumes and equally wonderful:—

> "What, then, is taste but those internal powers,
> Active and strong and feelingly alive
> To each fine impulse? a discerning sense
> Of decent and sublime, with quick disgust
> From things deformed, or disarranged or gross
> In species? This, nor gems, nor stores of gold,
> Nor purple state, nor culture can bestow,
> But God alone, when first his active hand
> Imprints the secret bias of the soul."

I purpose making further experiments on this subject as time allows, and as the principles which guide the honey-bee—along with many of our wild species—are so exceedingly familiar to us all, I do not intend to offer many remarks on this point, suffice it to say that the queen-bee has distinct knowledge of her actions—though perhaps not in every case, "which nobody can deny" (Cowper)—though interrupted, and that knowledge continues for some time after unless some outer influence removes by some means or other the impressions created in the queen's mind; and, further, that in the case in point the queen-bee, through her organs of smell—situated on the antennæ—is able to detect within the cell, without the assistance of touch (the eggs having been removed), within a reasonable period, whether or not she has laid an egg.

But the question naturally presents itself: from which of the two does the smell arise—the egg itself or the secretion which causes the egg to adhere to the bottom of the cell? Though inclining to the view that both play an important part, I am unable to answer this question satisfactorily to my own mind.

I am, however, of the opinion, which is shared by many scientists, that insects possess *senses or sensations* quite unknown to us, and which on that account we cannot even imagine; so that we are quite unable to say whether the impressions produced on us by certain actions and movements have the same effect on insects. For myself, I am firmly persuaded that they are not.

There is an increased leaning or tendency on the part of some to take away from the honey-bee many instincts and senses, and to place the actions, functions, continual processes, and persevering activity down to mere mechanical action — to the work of mere machines. I, for one, am unable to accept this theory, feeling convinced that the highly-organised state of our honey-bee is due to more than mere mechanical force, namely, to that instinct and common-sense implanted in it by the hand of an all-wise Creator.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

BEES IN SOUTH AFRICA.

APIARIES IN THE WAR AREA.

[4038.] Now that the Boers have established such an unenviable reputation as "takers" of everything in general, it will be no surprise to hear that news of "further depredations in the Klip River" apiaries has come to hand, and the industry which was in a very promising condition round about Ladysmith has received a severe blow.

The credit for starting bee-keeping in the district referred to is due to the owner of those

hives I mentioned in my former note who for some years kept them in boxes, but about four years ago became acquainted with the bar-frame principle, and soon converted his boxes into frame-hives and his neighbours into bee-keepers, so that there was quite a flourishing colony of bee-men.

Unfortunately, however, his second out-apiary under the Berg is now reported "missing," no trace being left to tell their fate; from which fact it appears likely that they were carried off by some bee-man "on the other side," and may now be gathering honey in the Orange River Colony.

Another apiary near Spion Kop, consisting of seven bar-frame hives, is also cleared out, but in this case some broken frames scattered about gave the impression that they had been "taken up" on the Boer system by thrusting some lighted grass into the entrance; the owner also losing a good supply of bee-appliances, as well as all his household goods and farm implements.

The tragic fate of another stock in a fine, full size glass observatory hive, standing in a garden inside the town, was not involved in the mystery attaching to the others, for it was blown to atoms by a shell that burst close to it, and a splinter from it knocked a cup of tea out of the owner's hand, who himself escaped uninjured.

A little lot of bees up near the top of the mountains managed to escape the general ruin, and beyond one or two isolated hives that I have not yet heard about I think it is almost all that is left in the district. But the owners do not intend to give up bee-keeping, as one was down here last week and took back two stocks to make a fresh start, and I have just heard from my old friend that he has captured a stray swarm, evidently a starvation one, and is bringing it up with the syrup bottle.—A. C. SEWELL, *Durban, S. Africa, June* 23.

[That the above bit of "war news" will be read with interest goes without saying, and we are not without hope that bee-keeping in South Africa will extend under happier auspices in the near future. We are hoping to hear something about the bees from our old correspondent, Mr. Martin, the late expert of the Bristol B.K.A., if he is safe and well in his South African home.—EDS.]

DO BEES CARRY EGGS?

[4039.] May I ask through the medium of the B.B.J. whether bees carry eggs to, and raise brood in the cells of, combs inaccessible to the queen? I have a skep placed on the top-bars of a frame-hive for bees to transfer themselves into the latter, and when the expert examined them early in June he found eggs in the frames below, and concluded that the queen was gone down. He, therefore, recommended me to put a sheet of excluder-zinc both on skep and frame-hive, and, after allowing twenty-one days for brood to hatch, to then remove skep and super the hive with rack of sections, which was done. But when I took off the skep on expiry of the twenty-one days I found it full of sealed brood. I, therefore, drove all the bees out, put on a rack of sections, and then replaced the skep on top of those, and allowed another twenty-one days to elapse, when I examined again and found several combs in skep full of sealed brood in nymph stage. Now I am puzzled to know how it got there, for, though I saw no queen when driving the bees, I drove them all out to make sure; and as the excluder has been over the frames for the last six weeks, I can only account for the brood by presuming that the bees must have carried the eggs up from below.—INQUIRER, *Standlake, July* 14.

[We do not think that the solution of above puzzle would be difficult to an experienced bee-keeper who could make an examination on the spot; but to judge only from the details given is not easy. It is a moot point with bee-men as to bees occasionally carrying a few eggs from one part of comb to another, but they never do it in such a wholesale fashion as is given above. It, therefore, becomes certain that (as is most likely) the expert was wrong in supposing that the queen was below, or else the queen-excluder is at fault, owing to size of perforations or bad fixing. You should examine the combs in lower hive to see how they stand with regard to brood. It will not surprise us to learn that the queen is still in the skep and breeding there.—EDS.]

THE SEASON IN YORKSHIRE.

THE "BURRILL BEE."

[4040.] Regarding the bees in our part of Yorks we have been favoured with a honey flow since the recent advent of real summer weather, but the clover is in a deplorable state in some places, while in others it is perfect! All the way north of Doncaster it is good, that is, up the great North-road on which I travelled on my bike for some 200 miles on July 15. After getting over the Yore it is better still, and I heard a cyclist say that the scent of the clover was quite perceptible. South of Doncaster, however, the clover plant is burnt up and bee-keepers have had a bad time of it in consequence, but not as bad as in the Yorkshire Wolds which I saw on my way to Scarborough and Bridlington. On runs from Knaresborough, there was scarcely a bit of green to be seen in some of the clover fields, with the exception of the leaves of thistles. The honey flow just came in time to save a failure and a repetition, perhaps, of the honey-dew mischief of 1898, as the bees had just started storing the dark stuff in supers to the ruination of sections.

I noticed an odd occurrence, which has happened several times this year. Many readers will, no doubt, be aware of how

frightened cows and nearly all animals are of the "burrill bee," which lays its eggs in the skin of the animal's back, an egg that eventually produces a big larva which feeds on the animal in which it hatches. Now, it happens that when the sky becomes overcast with a cloud before a storm comes on, our hive bees take this as a timely warning and return home in all haste and in great numbers, causing a sound much resembling the note of the "burrill bee." This ominous sound stampeded a whole herd of cattle, which galloped with their tails high up in the air, in a straight line for my apiary. On they came, clearing every obstacle, till they reached a big wall, which turned them aside, after taking posts and rails in their way like so many hunters, breaking only the top rails, and clearing them again when racing back in alarm when they found themselves cornered. On another day the same cows went full gallop into a very strong 4 ft. 6 in. by 14 in. wall, shaking it all loose for several yards. It seems a very anxious time for all cows which happen to graze near where a large apiary is stationed when bees return home in this way on a storm being threatened. I should like to know if any other bee-keepers have had similar experiences? It also brings forward an interesting question of law, as to who is responsible for damage to property—whether it be cows, walls, or fences—under such circumstances as I have described.—C. B. ELMHIRST, *Hon. Secretary, Expert, Knaresborough and District B.K.A.*

FOUL BROOD AND SKEPPISTS.

[4041.] I fully agree with your correspondent "Alpha" with regard to the mischief wrought by keeping bees in skeps (4032, page 273). I am suffering in the same way myself. Two skeps such as those mentioned have to my knowledge been standing for five years within two or three hundred yards of my apiary. One has now dwindled and died, and the other is as weak as possible. I asked the owner last year to allow me to burn them, but he will not allow me or any one to touch them. I even offered him a new skep furnished with a healthy swarm of bees for the diseased lot, but with the same result.

We generally find bee-keepers very good-natured people and pleased to help one another, but this one is a notable exception; he is the most "waspy" bee-keeper (or, rather, skeppist) I ever met with, albeit he is a well-to-do man.—A. B. B., *Brightlingsea, July* 13.

BEES AND SWEET PEAS.

[4042.] I have read on more than one occasion that sweet peas should be grown for the use of bees, as a honey plant, I expect. I cannot now find the authority, but as far as my experience goes I think the sweet pea is useless for the purpose. I have now about 300 yards of these showy annuals in full flower. Indeed, I have been cutting the blooms daily for marketing for three weeks, and during the time have never seen a bee settle on a pea flower, nor yet has any one else about my place. I note the bees are very busy on mignonette.

We have plenty of white mustard growing near us. Unfortunately, the winds have been very strong every day since the mustard began to bloom, so the yield of honey from it cannot have been very heavy yet. We hope, however, that with the present better weather some improvement will follow. Most of my hives are crowded with bees and working in shallow-frame supers. I have not expected much, as there is very little of the honey sealed over yet.—W. J. B., *Farrington St. Clements, July* 10.

[We have ourselves never regarded the sweet pea as a honey-yielding plant.—EDS.]

REQUEENING HIVES.

[4043.] Kindly advise me as to the best way of accomplishing my object of requeening a couple of my hives. Hive No. 3 was made up of 5 lb. of driven bees on October 11, 1899. They appear to be a splendid strain of bees for working, and have already given me 34 lb. (extracted), while the hive now has three supers containing shallow-frames on. I gave the third super a few days ago, the hive appeared so crowded, and I thought the bees wanted more room. 1. Was this the right thing to do? Hive No. 2 last season sent out a swarm which was lost. I expected this lot (No. 2) would have been my best colony, its queen being in her first year, but it is not so, they have given so far only 10 lb. of surplus, although there are two supers with shallow frames on now, and I hope they will be filled, but they are beaten so much by No. 3 that I thought at the end of the present month I would remove the queens of both Nos. 2 and 3, and the bees would then, I suppose, set to work at once to rear young queens. As soon as No. 3 had queen-cells on more than one frame—say, two frames—give one of them to No. 2, removing at the same time all queen-cells from latter so as to ensure the young queens being from No. 3 hive.

I also want to prevent swarming in the future—one of the means to secure this end (*vide* B.B.J.) being no queen kept over two years old, &c.—am content with my three single and one "Wells" hive.

If on the wrong road kindly put me on the right per B.B.J., and greatly oblige, and it will not be the first time you have done so.—W. C. H., *Newton Abbot.*

[Giving too much super-room is a mistake and often results in a lot of half-filled combs. It is, therefore, entirely a matter of judgment not to overdo it. Your plan of re-queening will work out all right if carefully adhered to and well carried out.—EDS.]

(*Correspondence continued on p.* 296.)

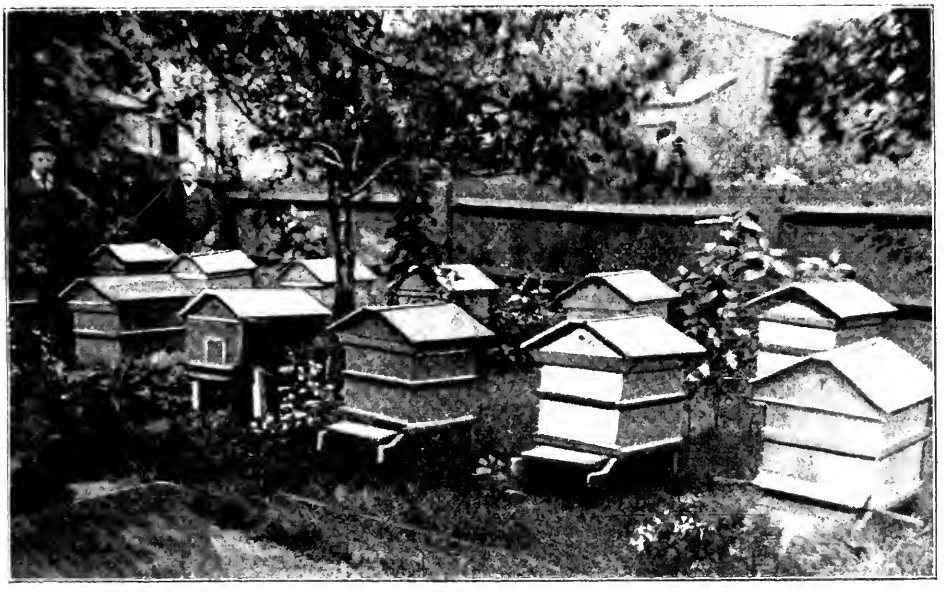
HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. Edgar Wilson's apiary, seen below, is typical of the bee-gardens of a large class of readers who keep bees more for the pleasure they afford than for actual profit. For one so situated, our friend has not only succeeded well, but has done good work for the craft, as shown when he writes —

"In response to your request for a few notes to go along with the photo of my apiary, I have very little worth saying with regard to myself, all my knowledge of bees and bee-keeping having been acquired from reading the 'Guide Book' and your journals the B.B.J. and *Record*. It is now nearly seven years since I took to bee-keeping as a home hobby, my interest in the craft being first aroused after being shown some hives belonging to a friend and also sections he had for sale. Our conversation took somewhat after the form of a lecture on bee-keeping, and, carpentry being one of my chief pastimes, I resolved to make a hive and buy a swarm of bees. This I did, but my first venture was a failure, owing, as I think, to loss of queen. However, I took the hive and what bees remained to my friend, who divided one of his stocks to give me one half of the bees and combs to make up my stock again. He also kept them under his charge for me till the following spring, when I removed the colony home again. In the following season I bought another stock and have increased till my hives now number twelve. Last year was my most successful one for honey, but we in the neighbourhood of the Crystal Palace can never hope to get a large amount of surplus, our district being practically in the heart of 'Suburbia,' and our harvest depends almost entirely on the limes, along with a little clover in the parks and open spaces. The bee-house and the hives seen are all my own handiwork and are made to take the standard frame. My work keeps me from home for some twelve hours a day, yet I find my bees a source of great pleasure and a fair amount of profit, while to be among them at all times is to me a joy. I have only had one swarm during all my bee-keeping, for by giving plenty of room at the right time I manage to stop it effectually. I had a touch of what I am sure was foul brood early this spring, and not wishing to make any mistake I promptly made away with three suspected stocks. I now fancy I was a bit too drastic in my method of dealing with the disease, for when the expert came and examined my hives he gave a clean bill of health for the whole of the others. I am also proud to say my bees do not owe me a penny, for they have always more than paid for hives and keep since I began with them. I have been the means of inducing several to take up bee-keeping, among them my friend and co-worker, Mr. Tom Pogmore, seen in photo (hat in hand) along with myself. He is the most promising of six beginners, who mainly owe their start to myself, and the favourite topic amongst us is always bees and their doings.

"I conclude by wishing good luck to all in the craft and a prosperous year 1900."



MR. EDGAR WILSON'S APIARY, UPPER NORWOOD, SURREY.

CORRESPONDENCE.

(*Continued from page* 294.)

YOUNG QUEENS IN SUPERS.

[4044.] Referring to last par of my note in (4034, page 274) B.J. of July 12, and the swarm which returned to parent hive before it could be got into a skep; the bees came out again on July 11; my wife secured the swarm all right this time, and in the evening I put them on nine frames with full sheets of foundation. I then removed the box of shallow-frames from parent hive to that containing the swarm. The shallow-frames were all partly filled, some being sealed over, but before replacing I had a look at the frames, and while so doing, to my surprise, a queen came running from under edge of box. Before I had time to look round I saw another queen. In explanation, let me say I had laid a carbolic cloth over the shallow-frame box some time before removing it, and nearly all the bees had gone down into hive below. In the latter I saw sealed brood but no eggs, so I think the old queen must have got lost when the first swarm came off, and the bees have been since waiting for young queen to hatch out. The young ones I found in surplus-box had evidently got through queen-excluder just after hatching out, and could not get back again. I killed the smallest of the young queens and dropped the other on to top of frames, and saw her run down all right. The bees are now killing off their drones, so I presume the young queen has been safely mated. I shall examine the combs in a few days to see if there are eggs in stock hive. I cut out eight queen-cells, but found no more young queens. I have now taken some honey off, and find it very fair in quality.—C. REED, *Wickford, Essex.*

EXPERTS AND FOUL BROOD.

[4045.] I was very pleased to see Mr. Perry's letter (4033, page 273) in answer to what I had written in B.J. of June 7. I feel quite honoured in having my ignorance exposed by an expert with eighteen years' experience behind him. There are, however, still one or two facts left untold which will help to fill in the picture outlined by Mr. Perry, which I hope you may be able to find room for in your valuable paper. I leave your readers to judge if the "cap fitted" Mr. Perry or not, as when I wrote on page 226 neither name, time, or place was mentioned. He does not state that the number of stocks examined by him was six, three being infected with foul brood, the others healthy; one of the infected hives was very bad, the other two not so bad. He suggested that I might get a good bit of honey from the two last-named, but that I should run some risk of infection to the healthy ones. I need hardly say his suggestion was not acted on, as I burnt the lot at once. He would have found them already destroyed had he called a day or two later.

The weather was very bad till the day before his visit was paid, and the stocks had not been touched since September, or seven months before. Mr. Perry could have had carbolic acid for the asking, as I had some in stock. I did not think it my place to make any suggestion to an expert. Further, let me say my profession is that of gardener, and not foul-brood farmer as Mr. Perry insinuates. My own stocks (four) had no foul brood when I supered them in June, and never have had. They were inspected by Mr. Perry's predecessor two years ago, and pronounced quite healthy. I also accompanied him on his tour for two days to gain all the knowledge I could respecting foul brood, which, as Mr. Perry states, is very prevalent in this district. My bees are open to inspection under proper conditions. I flatter myself I do know foul brood from chilled brood, my employer's bees being rotten with the disease when they were given over to my control three years ago, before I had any bees of my own, and I also beg to differ from Mr. Perry when he says there was no chilled brood in the hives examined by him. I hope I may be allowed to believe my own eyesight. I had thought of entering the examination for a third-class certificate this summer, but feel a bit dubious after Mr. Perry's expert opinion. I am not the only one in this district who has formed opinions similar to my own respecting experts and foul brood.—F. KNIGHT, *Warnham, Sussex.*

Queries and Replies.

[2460.] *Dealing with a Captured Swarm.*—I am a beginner possessing one stocked hive and an empty one in case of a swarm. Two days ago (July 11) my gardener, hearing of a stray swarm being at the top of a chimney in a house near at hand, went up, and after securing the bees in a bucket, brought them down here, but too late in the evening to hive them. Next morning I took two frames of brood, honey, pollen, &c., out of my other hive and put them in the spare one, prepared beforehand with two frames of foundation on each side and division-boards, &c. I then threw out the bees on to a large board placed in front of the hive and they at once ran in. I could not see the queen at the time, and as I carefully examined the frames a few hours later and still failed to see her, I think she could not have been there. 1. Am I right in this? 2. Is such a case of deserting young brood common? I ought to say that before my gardener secured the bees they had been on the chimney for six or seven hours and part had gone down and got into the room below, and maybe the queen led the way! I also

very soon saw that the ground below my stocked hive had a great many dead bees lying on it. 3. Had the newcomers attacked and killed them? In opening the hive to get out the two frames of comb I had smoked the bees. 4. Would this render them less able to resist attack? I examined the hive yesterday and found that the two frames of foundation I had put in to replace those taken out on 12th were drawn out half-way and partly stored with honey and pollen in about thirty hours. 5. Is this unusually quick work? I also looked over the "spare" hive to-day (14th), in which the two frames of brood are, and found young bees hatching out. 6. Will they nurse the young grubs? I have confined the bees by closing the door. They have plenty of honey for food. 7. Do you think they will survive? Since the stray swarm was brought both my wife and myself have been stung by bees in the garden some distance from the hives. I think that these attacks are made by the "homeless" bees. 8. Is this likely to be so?—G. J., *Sidmouth, July* 14.

REPLY.—1. It is more than probable that the queen was there, but much depends on your quickness or otherwise in finding the queen. Apart from this, however, the test of a queen's presence is to examine the combs for brood or eggs. 2. We do not gather that there has been any desertion of brood if, as stated, the bees still remain. 3. The dead bees will no doubt be part of the swarm which attempted to enter the old hive and were killed by the bees of the latter. 4. No, at least not to any appreciable extent. 5. Not unusually quick, but fairly so. 6. You should set the hive outside and release the imprisoned bees without delay; not only so, but the presence or absence of the queen should be definitely decided, as the now diminished swarm will be of little use if queenless. 7. Not unless allowed their liberty. 8. No. The upset will be a result of inexperience in hiving the stray swarm.

[2461.] *Honey from the British West Indies.*—Having often been told by persons who had the good fortune to have been to England that the honey obtained out here is of very inferior quality compared with good English honey, I now send you by parcel post three samples (numbered 1, 2, and 3) of Barbados honey, asking you to oblige by letting me know in the columns of the BEE JOURNAL what you think of them. No. 3 I *know* the source of, but the other two I do not know anything about. Trusting that you will pardon me for occupying your valuable time. —H. C. K., *Barbados, July* 4.

P.S.—If you would care to have a few "notes" on bee-keeping out here I would send you a communication now and again.

REPLY.—1. Package reached us quite safe. A good specimen of careful packing. All three samples are entirely new to us so far as regards flavour. No 1 we like best, and, without anything beyond palate to guide us, we should say it was from the blossom of the sweet almond, so strongly does the very pronounced flavour remind us of that delicate esculent. No. 2 has an aromatic flavour altogether different from that of British honey, and is what we would call fair only in quality. No. 3 is below both the others in flavour. Samples are all bright and clear, too thin for our standard of density, and of the colour we should call medium, or between our light and dark. Many consumers would, we think, like No. 1 very well as a table honey if better ripened. 2. We are at all times pleased to have a few "bee-notes" from readers located abroad.

[2462] *Queen Mating.—Forming Nuclei and Queen Rearing.*—Some information and advice upon the following heads will be esteemed:—On July 1 I accidentally lost a queen when a hive swarmed. Not wishing to raise a queen from this particular hive, I destroyed all queen-cells, and afterwards wrote to one of your contributors (Mr. McNally) for a queen, which was sent, along with a small cast. I introduced this queen and cast on July 11 by shaking out a few frames of bees, after smoking them, on to a temporary alighting board in front of the hive, and then throwing down the swarm among them as they ran in. I did not, however, see the queen then. Three days later I examined the hive, and this time saw the queen (which appeared rather small), but no signs of eggs. Two days afterwards (July 16) I once more opened the hive, saw the queen, and found one egg in a queen-cell. This was the only egg to be seen in the hive, and I concluded that the queen was either maimed, or the hive being so full of bees she was not going to have any more, but intended to swarm. Any way, I destroyed the queen-cell and "clipped" the queen's wing. (I have to do this to prevent loss of swarms, though I notice you do not approve of "clipping.") On again examining the hive last night I found the queen, and noticed this time that her abdomen was very much larger, while on each side of a few of the combs some eggs were seen. Now, if the queen is fertile, the question is, when was she fertilised? When received she must have been a virgin. Saturday, Sunday, and Monday, 14th, 15th, and 16th, were all good days, and she may have been mated then. In the "Guide Book" no mention is made about when the queen of a cast or second swarm begins to lay. In "The Honey Bee" (p. 141) it is said the young queen usually begins to lay eggs about forty-eight hours after mating, and in Root's "A B C" book the time is given as about a day after mating. 1. What do you think about all this? I have this year attempted some queen-rearing on the plan described by Mr. Brice in the *Record* for August, 1899. 2. In cutting off the queen-cells I perhaps cut too closely, but after inserting three of them in nuclei, why were the cells torn open and the immature queens thrown out? Other

two cells I put in cages, and from these the queens both hatched on July 5. I also left one cell in the original stock. The queen in the latter I saw out for her mating flight on the 15th inst. and return unsuccessful. Whether she has been mated since or not I cannot say, not having examined the hive. I saw the other two queens (hatched in cages) last night, and neither of them appear to have been fertilised. The worker bees in both nucleus hives are working hard. Weather has been very good for queen-mating. Flying drones are plentiful, and the authorities say that queens take their mating flight about four days after hatching. That would be July 9. 3. From July 9 to 19 seems an exceptionally long time to elapse, is it not? Unless they are mated within the next few days, I shall have to send for a queen (I only need one if the uncut queen mates all right), as it is already rather late to get any good for a heather harvest. I intend to join up three nuclei for this, one with the old queen (the mother) and the two nuclei. I have kept the old queen laying all the time by removing frames as soon as well furnished with eggs. I may mention that I purchased a swarm from another of your contributors (Mr. Woodley). I received this swarm on June 7, and although occupying a "W.B.C." hive with rack of sections on, the bees swarmed on July 11 and again on the 15th, the swarm being returned both times. 3. Have I kept the entrance too narrow, and so caused the bees to swarm? Although my apiary is in one of the bleakest parts of North-east Lanarkshire, this year has been a very good one so far.—JAMES ARTHUR, jun., *Glasgow, July* 20.

REPLY.—1. The statement on page 141 of Cowan's "Honey Bee" may be taken as generally correct. It is impossible to fix the time to a day, seeing that so much depends on temperature and surrounding circumstances of the case. Besides, why trouble about it so long as the young queen is now laying all right? 2. When forming nuclei, the bees should not have a ripe queen-cell given them right off, but be "got into the humour," as it were, to receive a queen by being made to feel their loss. This done, they will care for a ripe cell, instead of tearing it open, as in your case. 3. It is more than probable that lack of ventilation in warm weather caused the bees to send out what is usually called a "virgin swarm." Experienced bee-keepers who use frame-hives of a good type are never troubled with "virgin swarms." Personally, we never had one such in all our thirty years' bee-keeping.

[2463.] *Damaged Queen with Swarm.*—On June 15 I received a strong swarm of bees, which I hived on nine frames. I fed the bees for a fortnight. On July 7 I hurriedly looked at all combs, and could find no sign of eggs or brood. Thinking they were without queen I gave a frame of eggs from another hive. On July 14 I examined, and this time found the queen, but still could see no signs of her fertility. I don't think the bees are raising any queen-cells. There are only about a couple of drones in the hive. Could I do anything to stimulate fertility, or should the useless queen be destroyed? The bees are working fairly well. If you can give me a suggestion I shall be pleased.—S. B., *Macclesfield.*

REPLY.—It would appear certain that some internal physical damage has happened to the queen either when hiving or in transit. We suppose the swarm would have a fertile queen when sent, and in this case she must have received some injury probably to her ovaries, which will render her worthless.

Bee Shows to Come.

July 27, at Driffield, Yorks.—Driffield and District B.K.A. Show, in conjunction with the Driffield Agricultural Society. Eight open honey classes.

July 31, at Ely.—Honey Show in connection with the Cambs and Isle of Ely Agricultural Society. Several open classes. For schedules apply to C. N. White, St. Neots.

August 1, at Henbury, near Bristol.—Annual Show of the Henbury District Bee-keepers' Association. Open classes with liberal prizes for "collection," twelve 1-lb. sections, twelve 1-lb. glass jars, single 1-lb. section 1-lb. jar, wax, granulated honey, &c. Schedules from C. A. Newman, Hon. Sec., Henbury. **Entries closed.**

August 1, at Yatton (Som.).—Bristol, Som, and South Glos B.K.A. Annual Show in connection with the North Somerset Agricultural Society. Five open classes, including one for single jar and single section (with free entry). Good prizes. Schedules from W. T. Tarr, Hon. Sec., 42, North-road, St. Andrew's, Bristol. **Entries closed.**

August 2, at Ramsey (Hunts).—Annual Show of the Ramsey Horticultural Society. Open class for honey, 1st prize £1 1s.; 2nd prize, 10s. Schedules from F. Rowell, Secretary, Ramsey (Hunts).

August 2, in the Grounds of Compton House.—Annual Show of the Yetminster District B.K.A. Open classes for single 1-lb. section and also for 1-lb. glass jar of extracted honey (entry free). Schedules from G. Leeding, Hon. Sec., B.K.A., Bradford Abbas, Sherborne, Dorset. **Entries close July 29.**

August 2, at Market Drayton.—Honey Show in connection with the Market Drayton Horticultural Society. Two open classes, twelve 1-lb. sections and twelve 1-lb. glass jars run honey. Prizes in each class, 15s., 10s., 5s. Schedules from W. Woodburn, Secretary, Market Drayton. **Entries close July 28.**

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition. Schedules from H. Tolson, Park House, St. Thomas, Exeter. **Entries close July 28.**

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition. Schedules from A. H. Edwardson, 6, Hamilton-square, Birkenhead.

August 4, at Helsby, Cheshire.—Annual Honey Show in connection with Flower Show. Two open classes. Schedules from Dr. Briant, Helsby, Warrington.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Increased prizes and classes for single 1-lb. jar and 1-lb. section, with free entry. Schedules from F. B. White, Hon. Sec., Marden House, Redhill. **Entries close July 28.**

August 6 (Bank Holiday), **at Lichfield.**—Honey Show in connection with that of Lichfield Floral and

Horticultural Society. Two classes for members of the Staffs B.K.A. Open classes for dark honey and wax, and two for cottagers. Two medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations in Bee tent of Worcester C.C. by Rev. E. Davenport.

August 6 (Bank Holiday), **at Melton Constable Park.**—North Norfolk B.K.A. Annual Honey Show in connection with the Horticultural Exhibition. Schedules from Hon. Sec., C. J. Cooke, Edgefield, Melton Constable. **Entries close July 28.**

August 6, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey (entry fee), six prizes, first prize, 20s. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 7 at Leamington.—Honey show in connection with the Leamington St. Mary's Horticultural Society. Classes for both light and dark extracted honey and for 1-lb. sections. Schedules from W. P. Smith, Secretary, 22, Leam-street, Leamington. **Entries close August 2.**

August 8, at Marlow, Bucks.—Annual Show in connection with the Marlow Horticultural Society, under the auspices of the Berks B.K.A. Bees, hives, and appliances; honey, &c. Twelve open classes. Liberal prizes. Schedules from A. D. Cripps, High-street, Marlow. **Entries close August 4.**

August 8, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1 lb. section and single 1 lb. jar, with no entry fee). Schedules from J. P. Inkpen, Neston, Corsham, Wilts.

August 9 at Madresfield.—Worcester B.K.A. Show of hives and honey in connection with the Madresfield Agricultural Show. Seven open classes. Schedules from John P. Phillips, Spetchley, Worcester. **Entries close August 6.**

August 16, at Abergwili.—Honey Show in connection with the Horticultural Exhibition. Open class for single 1 lb. jar Prizes 10s., 7s. 6d., 5s., 2s. 6d. (no entry fee). Exhibits to reach the Secretary not later than August 14. Schedules from J. Jones, 3, Gifregardens, Abergwili, R.S.O.

August 16, at Goole.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 11.**

August 18 at Selly Oak, near Birmingham.—Selly Oak and District Horticultural Association. Four classes for Comb-Honey in 1-lb. sections, Shallow-frames, Standard ditto, and Non-Sectional Supers. Lectures in the Bee Tent of the Worcester C.C. by the Rev. E. Davenport. Schedules from Mr. J. Muckley, Hon. Sec., Frederick-road, Selly Oak. **Entries close August 4.**

August 25, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and for appliances and wax, also for single jar and section, with free entry. Twenty other classes, for Scotland only. Liberal prizes. Schedules from Jas. Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 15.**

August 29, in St. John's Schoolroom, Blackpool Annual Show of the Blackpool and Fylde Horticultural Society. Exhibition of honey under the auspices of the Lancs. B.K.A. Open classes for twelve 1-lb. sections and twelve 1-lb. jars extracted honey, with prizes of 20s., 10s., and 5s. each, also for single 1-lb. jar (no entry fee). Schedules from R. E. Stirzaker, Sec., Reddar-lane, South Shore, Blackpool. **Entries close August 20.**

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close August 8.**

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes." Liberal prizes and medals. Twenty classes in all. Schedules from James Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** Schedules now ready. (See advertisement on p. vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. L. DARRAH (Heaton, Mersey).—*Weight of Honey in a Standard Frame.*—A standard frame, if filled entirely with sealed honey, would probably weigh between 6 and 7 lb. It is, however, very misleading to count upon combs from brood-nests—even when "well filled," as the term goes—containing that weight of honey owing to the considerable reduction for "tare." We should not count on getting more than 40 lb. of honey from "ten nearly completed combs in standard frames taken from brood-nest." 2. Much obliged for your recommending the BEE JOURNAL to your friend, but you may assure him that our paper regularly goes to both Norway and Sweden.

BUZZ (Keswick).—*Painter's Spirit Lamp for Disinfecting Hives.*—1. There can be no more effective means of thoroughly disinfecting hives—in which bees have died through foul brood—than a "painter's lamp." No organism can stand contact with fire, and the lamp referred to intensifies heat just as a blow-pipe does the flame of a gas jet. 2. After the bitter experience you have had we should remove the paint from hives inside with a spatula—as painters do very quickly—and then with the flame "scorch" the surface of the wood without burning Even the spores of foul brood would go down before *that*; moreover, it does away with the need for repainting.

EARLSTON (Glos). — *Yellow Cappings on Comb-honey.*—There are two kinds of what may be called "yellow cappings" to comb—one a clean-looking, light yellow, somewhat resembling dry mustard in colour; this is from sainfoin. The other is a much darker and less attractive-looking colour that can hardly be described as yellow; in

some seasons fruit-honey in comb has cappings like this. We could only decide which of the two yours is by seeing a section.

J. DEAN (Steeple Aston).—*Late-flowering Lime.*—The twig sent is no doubt from the same variety (*Tilia petiolaris*) as that illustrated on page 403 of B.J. for October 12 last year.

O. SUNDERLAND (Acocks Green).—*Bees Refusing Foundation.*—There must be some reason for bees not taking kindly to supers other than the foundation used, the latter being very good in quality.

A. S. J. (Andover).—*Honey Samples.*—The honey sent is of very excellent quality in all respects.

R. CHAPMAN (Newton, Kettering).—*Stimulating Autumn Breeding.*—1. There is no way of causing queens to continue breeding beyond the usual time, except by slow feeding to lengthen out the season, as it were. It is, however, advantageous "along this line"—as Americans say—to replace old queens with young ones at the end of July and keep the slow feeder going until the middle of September. 2. We do not advise open-air feeding in autumn under any circumstances. It is always an inducement to start bees robbing.

TOM MOODY (Ayrshire Cottage).—*Alleged Fraudulent Showing.* — Regarding the "case" on which you ask for advice, we can only say that "honey eight years old," if shown in a class for produce of the current year, is ineligible and should be disqualified.

A. T. W. (Thatcham).—*Soluble Phenyle.*—This should be obtainable from any chemist of repute. It is quite different from absolute phenol. If not easily got, write to the manufacturers, Morris, Little, & Co., Doncaster, who supply it in bottles at 6d. and 1s.

F. W. M. (Worthing).—*Honey Samples.*—Honey sent is fairly good, but scarcely up to the standard of such important shows as those named.

H. S. CHARLTON (Bournemouth).—*Bees not Entering Sections.*—We see nothing in sample of foundation sent to account for the refusal of bees to work on it. There must be a scarcity of honey in your district, or some other cause not apparent to a beginner like yourself. Are the outside frames in brood-chamber well filled with honey? If not, forage is scarce, and this would explain matters.

W. D. (Sutton Coldfield).—*Compensation for Swarms Destroyed in Transit.*—If the swarm was properly packed for safe transit and labelled "*At Company's Risk*," it would appear as if the company is liable for value of the suffocated swarm, but it is impossible to judge safely of these matters without hearing both sides, and so we think the best course is to let a County Court Judge decide who is liable.

A. B. C. (Staffs).—*Experts' Visits.*—If you are a member of the County B.K.A., and as such are entitled to a visit from the expert, you should complain to the Hon. Sec., Mr. E. E. Crisp, 8, Jesson-street, Coventry. He will, no doubt, help you; we cannot.

NIL DESPERANDUM (Cardiff).—*Vicious Bees.*—Bees sent are the ordinary variety. If a special stock becomes constantly troublesome by reason of its viciousness, the remedy is to destroy the queen and replace her with one whose progeny is known to be of quiet temperament. There have, however, been many complaints lately of bees, usually quiet, becoming troublesome in the way referred to. The weather will, no doubt, have something to do with it. Where it is hot and not much honey coming in, it not seldom causes bees to be more pugnacious than usual.

Suspected Combs.

TRINITY (Leeds).—Comb sent was positively rotten with foul brood in its worst stage, and the request for "advice how to treat for curing" shows that our correspondent has not the smallest notion of the disease or the need for care in handling such combs. It was a question with us whether the letter packed along with the comb should be burnt unread or washed to remove the foul matter before its contents could be made out. The whole contents of the hive should be promptly burnt and the nature of the disease ascertained from some reliable guide-book before going further with bees or bee-keeping.

R. E. (H.).—Comb contains foul brood bacilli, but no spores. There are also what appears like dysenteric symptoms in the comb.

J. W. (Wooler).—Comb is badly affected with foul brood of old standing. We should burn combs and frames, and only save bees—if strong—by carefully feeding with medicated food as proposed. Unless there are as many bees as make a 3-lb. swarm they will hardly be worth the trouble of saving.

C. C. (Banchory, N.B.).—There are slight signs of foul brood in comb; quite sufficient, however, to make it unadvisable for you to use the combs for a swarm, as proposed. We should melt them down for wax.

A correspondent writes as follows:—"Will you kindly tell me if you know of a bee-farmer requiring a pupil, and what premium would be expected? Also whether it is usual for pupils to live with the farmer or otherwise?" If any "bee-farmer" is disposed to entertain the above proposal, we will forward letters, addressed "N. R., c o BEE JOURNAL Office."

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

A meeting of the Council was held on Thursday, July 26, at 12, Hanover-square, London, W., Mr. W. H. Harris in the chair; there were also present Messrs. H. W. Brice, W. Broughton Carr, J. H. New, E. D. Till, T. I. Weston, C. N. White, and the secretary. Letters apologising for absence were received from the Hon. and Rev. Henry Bligh, Messrs. R. T. Andrews, W. F. Reid, P. Scattergood, E. Walker, A. Watkin, and F. B. White.

The minutes of the previous meeting were read and confirmed.

The following were duly elected to membership, viz. :—

Mr. H. J. Banks, Wragby, Lincs.

Mr. W. Bowes, Elmhurst, Darlington.

Oxfordshire B.K.A. Hon. Sec., Mr. H. F. Turner, Turl-street, Oxford.

Worcestershire B.K.A. Hon. Sec., Mr. C. M. Watson, Honeybrooke, Kidderminster.

Mr. T. I. Weston presented the report of the Finance Committee, which showed a credit balance at the bank on July 25 amounting to £105 0s. 2d. A number of cheques were ordered to be drawn, including those for amounts due to exhibitors on prize and sales accounts at the late "Royal" Show at York, and the report unanimously approved.

The Council also endorsed the recommendations of examiners of candidates for the Association's Expert Certificates at Chingford, Lincoln, London, Stafford, Truro, Winchester, and York. The total number of candidates examined was thirty, of whom twenty-three gain "passes."

Nominations of judges and examiners to officiate at the following shows and fixtures were made and approved, viz., Beddington, Birkenhead, Ely, Exeter, Madresfield, Rochdale, Swanley, and Worcester.

The report of the expert (Mr. W. Herrod) upon his work for the Association to date was presented to the Council.

The following resolution of the Devon B.K.A. was brought forward for consideration :—"That in the opinion of the Council of the Devon B.K.A. the time has come when the British Bee-keepers' Association should refuse to recognise any one as lecturer, expert, or judge who does not hold the certificate of the British B.K.A." After considerable discussion it was eventually resolved, *nem. con.*, that the Secretary be instructed to say in reply that at present the only persons recognised by the B.B.K.A. as experts or lecturers are those holding the Association's certificates. The Council does not issue certificates of proficiency in the judging of honey, &c., but will continue, as in the past, to exercise every care in the selection and appointment of those gentlemen only in whose ability and integrity they have full confidence.

ROYAL LANCS. AGRICULTURAL SHOW.

The above important show was held at Rochdale on July 26, 27, and 28. Beautiful weather prevailed the whole time with the exception of the first hour on Saturday morning, and a "record" sale was obtained on that day. It was a matter of regret to all old members of the county bee-keeping fraternity that so poor a display of honey was staged. True, it has not been an ideal year for honey, yet, with money prizes of £2, £1, and 10s. in each of the open classes, one would expect more entries. In the unavoidable absence of the Rev. J. F. Buckler the exhibits were judged by Mr. F. H. Taylor, hon. sec. of the Lancs. B.K.A., who made the following awards :—

Twelve 1-lb. Sections (Open).—1st, Wm Woodley, Beedon, Newbury; 2nd, J. Sopp, Crowmarsh; 3rd, H. F. Beale, Andover.

Twelve 1-lb. Jars Extracted Honey (Open).—1st, J. Sopp; 2nd, W. Woodley; 3rd, Herbert Pears, Mere, Lincoln; v.h.c, H. F. Beale.

Twelve 1-lb. Jars Extracted Honey (County only).—1st, Robert Rymer, Hesket Bank; 2nd, J. F. Williamson, Fleetwood; 3rd, James Gorst, Morecambe.

In the classes for *twelve 1-lb. Sections* (county only) and for *Trophy of Honey* (open), there was no competition.

Collection of Hives and Appliances.—Silver Medal—George Rose, Liverpool.

Outfit for a Beginner.—Price not to exceed £1 10s.: 1st, 2nd, and 3rd, George Rose.

Complete Frame-Hive.—1st, 2nd, and 3rd, George Rose.

Honey Extractor.—1st, 2nd, and 3rd and v.h.c., George Rose.

As will be seen Mr. Rose had it all his own way in the appliance classes, there being no other competitor.

Lectures and practical demonstrations were given twice daily in the bee tent, under the auspices of the Lancashire County Council, by Mr. H. Taylor, 1st Class expert B.B.K.A., and attracted large and interested audiences.

Mr. T. D. Schofield, Alderley Edge, on behalf of the B.B.K.A., conducted an examination for 3rd class certificates.—*(Communicated.)*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

QUEEN VAGARIES.

[4046.] I have a stock of bees which are a complete puzzle to me. They came out all right in the spring, headed by one of friend

Brice's queens, which I introduced about two years ago. The second time I examined them the queen was missing, and the bees were building queen-cells. A queen was duly hatched from the latter, but owing to the bad weather at the time she must have got lost in her mating trip, for she never started laying. A friend then kindly sent me a queen with some bees, which I duly introduced. The next visit revealed queenlessness once more, so I gave a comb of brood and eggs, from which they reared a fine-looking queen, which started laying. I do not know if the last-named queen misbehaved herself, but when I examined them a fortnight later, from the time I saw eggs and brood, I saw two beautiful queen-cells sealed over. I shut them down in disgust, and almost vowed I would not look at them again, but I expect the next time I go up I shall not be able to resist the force of curiosity to see how they are progressing. If there are no signs of a queen then, I shall give them another chance, a frame of eggs, and then shut them down for the winter, for it seems to me that the present "varmints" will not have a queen to reign over them. If they still persist in their mad conduct I shall have nothing to do but let them die a natural death through their own folly. I do not care to join them to another stock, or the trouble might be repeated there. They are now on four frames, and, but for their strange ways, might have been a very strong stock now, for they were fairly strong in the spring, and breeding well. If I have anything further worth noting I will send it along.—D. H. F., *E. Cowes.*

SURPLUS FROM SWARMED HIVES.

EXCEPTIONS THAT PROVE THE RULE.

[4047.] In replying to query 2,459 (page 287) you say: "You did wrong in supering the parent hive in July after two swarms had issued from it; and it may be taken as a general rule that hives will not yield swarms and surplus honey in one and the same season." Six of my hives have swarmed this season, and at the present time five of these are storing honey in supers. It requires exceptions to prove a rule, and in the case of one of my hives this season there is a very marked exception to the "general rule" you mention.

This hive swarmed on July 2 and 10. The top swarm weighed 5 lb. and the cast 6 lb. This in itself is exceptional, that the "cast" should weigh more than the swarm. I had on two surplus-chambers, each containing ten shallow-frames, and I took off the top one and gave it to the swarm. The under one had been put on only a day or two before the swarm came off, and I therefore allowed it to remain. Except the day on which the "cast" issued, the bees have never ceased work in the super, and yesterday (July 19), on examining it, I found that it was about complete and ready for removal. This means that the bees have stored over 30 lb. of honey since the first swarm came off, and this in spite of the fact that it is not a very good bee season in this district. There is no mistake about this. We saw both swarms come off and they are doing well—I mean as well as other swarms that came off about the same time.

Keeping the foregoing in view, I consider your reply to Mr. Bennett is not quite so trustworthy as your advice usually is. As a general rule that may be correct, but circumstances alter cases. Whether it is wrong to super a hive that has swarmed depends on two circumstances—the strength of hive before swarming, and the strength of the swarm or swarms. I have said that of six of my hives that have swarmed this season five are now working in supers. The sixth was a comparatively weak colony, and yet it sent off a 9 lb. swarm and a 3 lb cast.

I hope you will pardon me writing you at such length, but I have derived so much benefit from reading the experience of others in your very valuable journals that, in common fairness, I am entitled to give them the benefit of mine—that is, of course, if you consider it worth printing.—D. MANSON.

[So far from considering the above as being not "worth printing," we gladly find room for our correspondent's unique experience, which forms the exception that proves the rule. And we heartily congratulate him on the phenomenal success he appears to have had in a "not very good bee-season." At the same time he must pardon us for saying that if our friend should ever have the luck (good or bad) to occupy the position of bee-keepers' adviser, he will do well to adhere to the "general rule" we follow in giving advice, and not even "hint" at the prospect of "a comparatively weak colony" sending out a 9-lb. swarm, or suggest the advisability of supering a stock on July 10, after it had "sent out a 5-lb. swarm and a 6-lb. cast." Such extraordinary exceptions as his own case affords are a revelation, even to one so accustomed to advising as ourselves.—EDS.

CHELIFER CANCROIDES.

IS IT A BEE-PARASITE?

[4048.] In the BRITISH BEE JOURNAL for March 30, 1899 (3,624, page 126), reference was made to the genus Chelifer inhabiting the hive of the honey-bee. This was, as far as I know, one of the first instances that this "spider-like animal," had been noticed in this connection, and the suggestion that it might be a parasite was placed on record.

The discussion which followed, apart from its interest was important, in spite of this discovery being recorded from Cape Colony—South Africa—nor am I aware whether this particular species has as yet been identified by

Mr. R. I. Pocock. In any case, however, it was considered generally as unlikely to play any very important part in the history of *our* honey bees. Nevertheless, this exotic species seems to have a good deal in common with our English and continental species—Chelifer Cancroides. I have taken it in England under stones and the like (mostly while hunting for fossils), and also in Germany, were it occurs much more frequently, in all kinds of places. The creature has, however (as I pointed out in B.B.J. for April 20, '99, pages 152-153), a preference for adopting old books and papers, as well as old furniture, as its hunting ground, where I have also taken it.

Up to the present time I do not think it has ever been recorded as being seen in England in hives, nor, as far as I know, in Germany; though I am sure many bee-keepers could not have failed to notice it sometimes. Some weeks ago, however, I was fortunate enough to secure a specimen perambulating about the combs in one of my hives, and I noticed that the bees strictly avoided the Chelifer, and this is, no doubt, explained partly by the characteristic trick of this group in taking hold of the bee's legs by the means of their claws, and partly, no doubt, by the extraordinary movements and gymnastics gone through in search of its prey. If we look for a solution of the problem why the creature thus takes hold of the legs of bees or flies, as the case may be, I think we can find it in no other way than by coming to the conclusion that nature has thus provided it with the necessary instinct to effect the needful transportation from one place or hunting ground to another.

I am convinced from the observations I then made that it is in no way parasitic on the honey-bee, as was at first supposed; but that the many small mites, and certain Psocus, attract it and enable it to find sufficient nourishment; this, I am sure, no one who is in the least acquainted with either the habits of Chelifer or those of the mites can deny, for it does not require a particularly observant person to detect the presence of the latter in the hives.

May we, therefore, regard it as of a saprophytic character and welcome it as a useful friend? The antipathy evidently shown by the bee, however, speaks against this; nor can I suppose that the mites and other small Acarinæ are of sufficiently a destructive character to warrant this. Further, can it be that the Chelifers might ultimately be induced to regard the Braula cœca with the eye of envy, and, turning its undivided attention into this channel, become one of our best friends? Though the Braula is covered with a chitinous covering and apparently safe against attack from this quarter, could not the apparatus on the pair of arms, which is admirably fitted for sucking purposes, overcome any difficulty on this point, and would not Nature's instinct teach them both (bee and Chelifer) the natural advantage of symbiosis?

In conclusion, I do not think we must regard the appearance of Chelifer Cancroides in our hives as anything new or extraordinary, as I believe that its chief place of abode when seen in or about a hive is more in the crevices above the frames than in the hive itself; *having, therefore, no direct relationship in any way with the honey-bee, it cannot be regarded as a parasite.*—R. Hamlyn Hamlyn-Harris, F.R.M.S., F.Z.S., F.E.S., &c., *July*, 1900.

SHOWING HONEY "EIGHT YEARS OLD" (?).

[4049.] I note on page 300 of last week's Bee Journal your reply to a question asked by Mr. Tom Moody, of Newmarket, with regard to exhibiting honey at our local show "eight years old." I am the person to whom it refers, and in explanation let me say I told Mr. Moody that the *comb containing the honey* was eight years old, but the honey was of this year's produce. I excuse Mr. Moody for making that assertion because he is a beginner in the craft and does not know old honey from new. I may say that I had plenty of new honey for showing on July 12, seeing that with sixty stocks of bees to draw from there was no need to show old honey. The judge was Mr. Forder (of Messrs. Daniels, Norwich), a man that would quickly detect such a fraud. The charge made is therefore absolutely groundless, and if not contradicted it would do me serious harm locally.—Charles Carter, *Gwynne Apiary, Newmarket, July* 30.

THE SEASON OF 1900.

[4050.] It is over a year since I sent a line about "the bees" in this part of the country. I have jotted down a few items concerning the bee season of 1900, if you think they contain anything of interest to readers.

First, then, I think the season in this part will nearly if not quite equal that of last year and in stating this I do not simply mean my own individual harvest, for I am one of those individuals who in summer am often wanted in three or four places—many miles apart—at one and the same time, to do something about the bees or hives of other people. I do not personally remove any surplus till the end of the season, as I work for extracted honey mostly, and I simply pile up one box of shallow-frames above another, and take all off at once when honey-gathering has ceased for the year, and as I have perfect liberty to do as I like wherever I go, you see my plan gets adopted in many places.

I am, however, sorry to say there are many of the "old time bee-men" still about here, who kill the bees when taking the honey. Some of them use very funny substitutes for hives, such as an empty butter-tub or old tea-chest. I have seen some of the latter with combs over 2 feet each way. It must be a

tiresome job to handle such combs, to say nothing of the mess in getting the honey out, but by exercising patience they manage it somehow.

There have been few swarms hereabouts this year. I have not had one, but I generally recruit my stock from driven bees or from stocks which have made a home in some hollow tree or under the tiles of a house. By the way, I had an amusing experience on the last Saturday in June last. I had located a swarm in an old ash tree and asked permission of the owner of the tree to remove them, which was readily granted. First, I borrowed a ladder from the smith's shop which happened to be opposite the tree in which the bees had established themselves. I found my ladder not quite long enough to reach the bees, so I went to work, and with a saw cut through some half dead wood. I then inserted an axe in a cleft in the tree, and, after heaving a bit, down come the piece of wood, and bees and comb and honey on an old military helmet I wore to protect my head, and, do what I would, the bees clustered on the helmet, and I carried them home on it a mile and a half away! I soon got them into a frame-hive and they are now doing well.—T. ADAMS, *Ely, near Cardiff, July* 28.

EXPERTS AND FOUL BROOD.

[4051.] The following facts may be of service towards stamping out foul brood; I give them from my own knowledge:—An expert visited a certain apiary and pronounced all stocks perfectly healthy. A friend of mine (a thorough bee man) visited the same apiary a day or two after, and pronounced every hive affected with foul brood in various stages. This opinion, of course, caused some controversy, whereupon my friend, to prove his case, sent to you a piece of comb (the slightest affected of all the combs), and in reply you stated that the comb sent was "affected with foul brood in a very early stage." I hope that experts may improve in knowledge, or woe be to bee-keepers who allow them to touch their apiary.—APIARIST, *Cambs.*

THE SEASON IN HERTS.

[4052.] In sending a line on the honey season here I take this opportunity of telling you how I appreciate the B.B.J., and of thanking you for the timely help I have had from it. I have often found some question answered that just suited my case. Lately there has been such a lot *re* foul brood in B.B.J. that it makes one suspicious, and on going through the apiary afterwards I noticed a peculiar smell, rather faint, and not particularly objectionable. I have heard it said by experienced bee-keepers that you can detect foul brood by the smell when walking past a badly-affected hive. I thought I would like to ask you if such a smell as that described is perceptible in all apiaries where there is foul brood in the hives? [No.—EDS.] There are about forty frame-hives in mine. I cannot find anything in any of my hives that lead me to think that the disease is there, apart from the faint smell I have referred to above. I have always thought my hives to be perfectly healthy. There are a lot of skeppists about here, and they all complain of so few swarms. I think Mr. Woodley was about right in his estimate of this present honey season when he put it at about a two-thirds crop. I have racks of sections on hives full of bees, yet some sections are not occupied. Other stocks seem to be doing well; perhaps the crop from second clover will fill them up.—H. D., *Hitchin.*

NOTES FROM NYCHWOOD FOREST.

[4053.] Bees in the neighbou hood of our forest seemed hard pressed with the quantity of honey they found (for a time), and sundry peeps at the surplus-chambers on hives showed the sections and shallow-frames to be in such promising condition as to make one think the bees are going to do grand things this year, and no mistake! Then came a big falling-off in the income, and now again a little is being gathered from the lime trees, &c.

I noticed when taking a stroll through part of the forest, about a month since, that a fine large pine tree seemed all alive with bees: then, about a couple of weeks ago, on going through Blenheim Park about 9 a.m. there were, so far as I could judge, more bees in the beech trees than the limes, and on returning the same way towards evening I found the limes were then having their share of the bees' attention. Again last week I spent several hours in a churchyard, about one and a half miles from here, on more than one day, under some fine lime trees, and their blossoms seemed so filled with multitudes of busy bees that the air was musical with the sound of their merry humming. All this shows that, as pointed out last year, a good row of lime trees near one's apiary must be a capital thing for late forage.

The recent correspondence in your pages on foul brood and manipulating the same will no doubt make all concerned more careful than ever before. I am sure there is a very prevalent feeling abroad that enough care is not taken by "experts" in going from diseased to healthy stocks. A bee-keeper said to me a few weeks ago: "Whatever you do, do not allow an expert to touch your bees;" and after reading Mr. W. H. Brice's articles last year in B.B.J., and now what your correspondent J. H. S. (M.D.) has to say in your pages regarding the care and trouble required in ridding the hands, nails, even the skin of the hands, of the spores, I feel sure many experts will now take extra care to do their duty well, and many who have bees will determine that only thoroughly trustworthy men shall ever overhaul their bees. I think good will come ou.

of this correspondence; in fact, all concerned should be determined to deal with the subject in a thoroughly practical manner.—JOHN KIBBLE, *Charlbury, Oxon.*

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. G. B. Powell—seen along with his wife and son in the illustration below—is a veteran soldier who, after having served Queen and country with the 60th King's Own Rifles, is spending the evening of his days at the home of the honey-bee, known as "Ye Olde Gate Apiary," which forms our bee-garden picture this week. Being, as we suppose, less deft with his pen than with more warlike weapons, our friend deputes us to "put into shape" the particulars sent—by request—to go along with the photo in print, and we gather therefrom that Mr. Powell served all through the great Indian Mutiny under Colones Jones, and afterwards, having "volunteered for service in the hills," he was smitten down by sunstroke while on the march to Umballa, in consequence of which mishap he eventually left the Army and returned home.

Thus it is we find himself and his son (who made all the hives seen in photo, and now does the more laborious work in the apiary) BEE JOURNAL readers for the past eight years. Not only so, but father, mother, and son are now all fond of bee-keeping, the latter being an especially active beeman, never so happy as when "commandering" a vagrant stock from an old tree or a house-roof. The old lady, we learn, makes metheglin and honey-vinegar, besides being a capital hand at wax-extracting, in which she takes great pride.

The first start with bees was made some ten years ago by rescuing a stock from an old tree in the woods belonging to an estate near Cardiff, and this stock afterwards increased to four, when, owing to inexperience in wintering bees, the whole lot perished from cold and want of food. Subsequently two swarms were purchased, and this time, with the help of the B. B. J., which was regularly taken, better progress was made, and we are glad to know that from its pages was acquired almost all the knowledge of modern methods they now possess. The apiary seen is small, but it yields an appreciable addition to the income of the family, and affords much pleasure to the members thereof. The average surplus in ordinary season is about 30 lb. per hive, and all the honey got can be readily sold at 1s. per lb. It is pleasant to record a case of this kind where pleasure and profit is combined to make the declining years of an old soldier more pleasant, and we hope Mr. Powell and his good wife may long be spared to enjoy "the bees."

MR. G. B. POWELL'S APIARY, ELY, CARDIFF, S. WALES.

Queries and Replies.

[2464.] *Dealing with Suspected Combs and Fertile Workers. New Zealand for Bee-Farming.*—1. I send two samples of comb marked "S" and "8" respectively, and will be obliged if you will say if either or both are foul broods. Sample marked "S" was taken a week ago from an empty hive in a neighbouring garden. The stock died in 1898, and the hive has been left *in situ* and open till I blocked up entrance fourteen days ago, having been told that bees—probably my own—were busy in and about it. Samples marked "8" are from two combs from one of my own hives—one that has done no good this year (I bought it in April and found it queenless). It still remains queenless, despite introduction of frames with eggs and also a ripe queen-cell at intervals. The stock having lately become possessed of a fertile worker I wished to split it up amongst other stocks, as advised in the "Guide Book," but on examination fear it is diseased. 2. Can you give any information as to the pros. and cons. of New Zealand as a location for bee-farming. (*a*) Is it an industry of any importance there already? (*b*) If so, is it "domestic," so to speak, or organised in large concerns? (*c*) Are climatic conditions and native flora such as to make honey, &c., a fairly dependable crop? (*d*) Is any one district particularly suitable?—H. C. W., *Old Colwick.*

REPLY.—1. Comb marked "S" from unoccupied hive is so old that all trace of brood has disappeared; the cell-cappings, however, clearly indicate foul brood. The other sample has no disease in cells, but it would be advisable to destroy the stock, seeing that the combs are occupied with drone-brood in worker cells, and the bees, so long queenless, are all old and utterly worthless. 2. Some parts of New Zealand are good for bee-keeping, white clover being grown plentifully. We have no personal experience of N.Z. as a suitable place for bee-farming, but as large tracts of grazing land are sown with white clover good honey is produced there in some districts. The bee industry is not carried on by means of "large concerns," but much the same as in Canada; a few large apiaries are owned by farmers, while the majority of bee-keepers are (like our own people) in rather a small way. The honey crop there is, we believe, no more reliable than our own, and, while some districts are, as we have said, good for honey, others are not suitable for bee-keeping by reason of plants and trees growing there which yield honey of poor quality.

[2465.] *Variation in Honey Yields.*—I have eight stocks of bees, four of which are frame-hives, the others in straw skeps. Five of the eight stocks are located in a garden surrounded by meadows and woods, and this season four of these hives were supered, the other one being allowed to swarm. On looking to see how they were filling the supers, I found the bees in two of the hives had not taken possession of them, and the other two, after just starting to build combs in supers, had deserted them and gone below. To outward appearance, all the stocks were working well. They were covered up properly and protected from the weather, great care being taken that the supers were clean and sweet. One of these stocks has been supered regularly for the last four seasons, but has never yielded more than 4 lb. of honey from it in one year. I have been careful to watch for swarms if they swarm, but none have issued. My other three stocks are situated eight miles away in not nearly so good a district, yet they have all swarmed and filled a rack of sections each besides. Can you give me any reason for this strange disparity?—B.A., *Somerset, July* 23.

REPLY.—If the "management" is the same in dealing with all the hives, it becomes plain that you are mistaken with regard to the honey-yielding capacity of the two districts. There may be some difference in the respective ages of queens in the two apiaries, but, apart from this, we are bound to attribute the difference in honey-yield entirely to the bee-forage being better in the last-named place than in the other.

[2466.] *Superseding Old Queens.*—1. In the case of it being desirable to supersede an old queen kindly say when is the best time of the year to re-queen, autumn or spring? 2. Should the operation be performed by placing a ripe queen-cell within the hive, or by introducing a young queen? A reply in your esteemed periodical will oblige.—KENT, *Hextable, July* 26.

REPLY.—1. The best time to re-queen is directly the honey season is over. 2. A young queen whose fertility has been tested is by far the best, because if fed slowly for some weeks after removal of the season's surplus a good many autumn-bred bees will be reared, and these are very valuable for next season's early work.

[2467.] *Dealing with Vicious Bees.*—I have a very strong stock of hybrid bees whose temper is so fierce that no one can approach the hive while they are at work in hot weather without getting attacked or stung. The bees of this hive are in this respect in marked contrast to those of my other two hives, which are comparatively harmless. So many complaints are made about these hybrids that I am disposed to destroy the queen. 1. Would this put an effectual stop to their viciousness? Or suppose I put some frames of foundation in a new hive, and set it in place of the hybrids while most of them are out at work? I should thus, on their return, get a large number of adult bees to whom I would give a new queen, taking the usual precautions in introducing her. The hybrids and their queen I would then destroy by sulphur or perhaps

chloroform; if I used chloroform the brood would be none the worse, perhaps, and might be put, some of it, with the new queen's stock. 2. Will you kindly say if this latter procedure would be the better plan of the two?—T. P. C., *Bath*.

REPLY.—1. If, after destroying the queen, you could introduce an alien queen whose progeny was known to be of mild disposition, it would in all probability end the mischief of which you complain. 2. This plan will not work at all, and should on no account be tried.

[2468.] *Returning Homeless Queens.* — I found a queen to-day among the twenty-four shallow frames I had just taken out of fifteen hives. She is not much bigger than the average workers, but her long body is unmistakable. She may possibly be the queen of one of the hives, or merely an extra princess. My query is:—How can I ascertain (in the former alternative) which hive she has left, as I, of course, wish to restore her to her home as soon as possible? The frames removed were all supers, and the brood-boxes were in no way disturbed. I have the queen at present safe in a cage.—C. C. JAMES, *Wortham Rectory, July* 24.

REPLY.—The only way of tracing the hive from which the queen was removed is to go over each one of the several stocks until the queenless one is found. In examining it will, of course, only be necessary to look for eggs and queen-cells unless the queen chances to be seen on the combs.

[2469.] Three weeks ago I got a "W.B.C." hive and swarm. In fixing the foundation in the frames one of the sheets was split, and the bees have since formed a queen-cell in the crack, mouth downward. I think there is an egg deposited in same. Should I leave the hive alone and let the bees swarm, bees being preferred to honey? I have no experience about bees, but expect this is too late in the season.—THOS. MACLEAN, *Cornaigbeg, by Oban, N. B.*

REPLY.—If you desire a swarm the bees had best be allowed to take their own course. It is, however, not quite certain that they will swarm even though the preparation named points that way. It is not usual for bees only hived three weeks ago in a full-sized frame-hive to swarm at the end of July.

[2470.] *Re-queening.*—1. I purpose re-queening my thirty stocks by taking away the old queens and letting the bees re-queen their own hives. Of course, I shall see that there is plenty of brood and food and drones before doing so. Which is the best time of year to operate? 2. Please say how often the brood nests should be renewed with foundation. I fancy after some years of breeding from same combs it has a tendency to diminish the size of bees.—W. T. CADNESS, *Ilford, July* 30.

REPLY.—1. We should start preparations for re-queening immediately the honey season begins to fail. The sooner it is done the better, so as to get the young queens at work egg-laying early in the autumn. 2. It is well to renew a few combs every year in order to constantly weed out faulty ones; but the tendency of old combs to diminish the size of bees is hardly worth considering, unless they are kept in use for many years, which is seldom done nowadays.

[2471.] *Re-Queening Hives.*—May I ask your advice with regard to one of my hives which is working but very slowly in sections. I fancy that the queen is now too old, seeing the hive has not swarmed for three years and it was a first swarm when hived. I have no idea as to the age of queen. What would you advise? If I remove the queen and leave brood in all stages in hive, would the bees be likely to raise another, and would there be any risk in pursuing this course? In answering, kindly bear in mind that I am only at home from the Saturday afternoon to Monday morning, and therefore do not see my bees during the week.—WARE B., *Stow, N. B.*

REPLY.—Under the circumstances named, the old queen had better be removed at once, and the bees allowed to raise a successor before the drones are killed off at end of season.

[2472.] *Dealing with Unfinished Sections.*—I should be very glad if you could tell me what I ought to do with my bees as regards the honey in section racks. No. 1 hive was a swarm this season. When the first rack was half full of honey (and in the four centre sections I find are brood as well as honey); I put another rack below it; but although the last four or five days have been hot and sunny, and bees hard at work, they do not seem to be filling the sections. An expert who called last Monday said the sections would be all finished by the following Saturday, but when examined I found only two sections sealed over. 1. Does it matter if I take them out before they are sealed—it is for home consumption? 2. Do the bees consume very much honey when they are "smoked"? In three other hives there has been a rack of sections on each ever since the end of May, but all are in the same unfinished state. 3. Does it put the bees off work examining to see how they are getting on? All are strong, healthy stocks and always seem active. 4. Ought the racks to be taken off—even if unfinished—to let them fill up the frames for winter consumption, or do they do that first before beginning sections? I hope I am not taking up too much of your space, but in any case I should be glad to know why—when seemingly so busy—sections do not fill up, and also if I had better let the brood hatch out in the sections referred to or take them away?—D. MAPPIN, *Epsom, July* 15.

REPLY.—1. So long as the honey is suitable for home-use it matters little about its being sealed over. 2. If time allows, each bee will

fill its honey-sac on being "smoked." 3. It disturbs work and upsets the bees for a time, so that no unnecessary examination should be made. 4. Racks of sections are usually removed to prevent the bees from carrying the contents below, which they will do as soon as the honey income begins to fail.

Echoes from the Hives.

Cowbridge, July 24, 1900.—I am sending you an echo from this part as I do not see anyone else doing so, and there are a good many bee-keepers here who could do more with the pen than I can. We have had anything but good bee-weather, cold, and so windy in the beginning of the season that the bees could make little headway against it. I had one stock teeming with bees on May 24, so I put a super on and that gave them something to do. They took possession of it on the third day after and worked well when a chance occurred. I had to give another super on June 2 as the bees were still hanging about the flight-board, and the extra room soon started them to work again. At that time the first super was about three-parts full with comb. A week or so later they had four or five of the middle frames partly sealed over, and on the strength of this I gave them a third super on June 19 to work at, but this last added super did no good as they left off working in the top one. As honey just then appeared to have become scarce I took it off, and after extracting all the sealed honey gave the super to another stock to finish off, which they are now doing rapidly. The bees in No. 1 hive are now rapidly filling the remaining two supers and sealing top super fast. I have given you the account of this hive's work in detail, though I have eight hives in all, but my opinion is that one must not give too much surplus-room in a season like this, or we shall have only half-filled ones on many hives at end of season.

ABOUT ROBBER-BEES.

In the long ago, when I was young in years, and in bee-keeping also, I spent considerable time in anxiously watching hives when young bees were rushing in and out during their exercise or play-spell, wondering if it was not a case of robbing. The subject of robbing was in those days a sort of nightmare affair with me, and I was always dreading and expecting a desperate case of it to commence, and when finally two or three weak, and what I now know to have been queenless colonies, were cleaned out by robbers, I thought I had at last discovered the cause that might prevent me acquiring great wealth with bees, and that it might be this same cause which had prevented old, experienced bee-keepers from becoming rich, for, in those palmy days of youth, it seemed to me that, barring some great unforeseen calamities of this kind, it would be an easy matter to make a great amount of money with bees, besides fully enjoying all those things which we would not sell for money if we could. But if whole colonies were to be wiped out by robbers in such a short time that I hardly knew anything about it until the whole affair was over, it changed the prospect entirely.

Now, I do not suppose there are any at present who hold such exaggerated views in regard to bee-keeping, or who dread "robbing" as I did in those days; but possibly some who have not been long engaged in our fascinating, if not wealth-acquiring, pursuit, may be interested in what I shall say on the subject of robbing, for I remember how eagerly I then read everything I could find regarding it. This was considerable; but it seemed to me the writers treated the matter in an awed, scared way, giving grave warnings not to do anything to incite robbing, and vaguely hinting at the great danger a bad case entailed. Brief accounts of how bands of frenzied robber-bees had attacked and killed almost all kinds of domestic animals, and in one or two cases they had sacrificed human life itself to their blind, unreasoning rage; and what dismayed me the most was what was said about the colonies in large yards robbing and fighting until the greater part were destroyed. The subject was not an assuring one as then treated, most particular caution being given not to throw a drop of honey or anything sweet where the bees would have access to it during a time of scarcity, or when no honey was coming in.

Two years ago last fall, at a time when not a drop of honey was to be had in the fields, and, as the general expression would be, "bees were just crazy to rob," while shovelling honey out of the cellar one day, I smiled grimly as I thought of this warning, for there were nearly 200 colonies within a few rods. But perhaps I should explain that this honey was stored in a room over the cellar; it was in a large barrel, about 500 lb. of fine mixed clover and basswood. The barrel got to leaking, and before I knew it the honey was all in the cellar, which had an earthen floor. I shovelled out three or four waggon loads of sand and honey mixed, which the bees industriously worked over, and no trouble with robbing occurred; in fact, if I have any broken comb, sticky frames, or anything else that I want cleaned up, bees are allowed to do the work, whether honey is coming in or not, and with me full colonies worth saving protect themselves from all robbers that ever mass together and attack them. No precaution is therefore taken except in some cases to contract the entrances, that is, after they have had their first cleansing flight in the spring. The only actual trouble and loss I have had on account of robbing has occurred when the hives were

first set out in the spring, when the number of colonies wintered in cellars is so large they cannot be, or, if for any other reason they are not, all put out the same day, there is danger under some conditions of those set out first robbing the ones put out later.

Bees usually will not make much effort to defend their hive from attack until after they have had their first flight in the spring, and by the time this is over the robbers may be at work in some hives in such force that there is apparently but very little effort made afterwards to repel them.

An old idea, and one still largely believed, is that after bees have concentrated in large numbers to secure any sweet that may have been exposed, or when a queenless colony has been overcome and cleaned out, the whole mass then, if nothing better offers, throw themselves upon some one colony, which, even if a strong one, may not be able to repel them. This is entirely erroneous, and it is well that it is, for if they did make a determined attack *en masse* half or more of the colonies in a yard might be destroyed in a short time; but the way they really do, after whatever they have been at work on is about gone, is to scatter or divide up and look for more. Single bees, and in a few cases I have seen about a dozen, attempt at nearly the same time to enter some hive with an unusually large entrance, or one which did not seem to be as well guarded as others; but if they get in at all they are soon dragged out again. Meanwhile the whole yard may appear to be getting in an uproar; great masses of bees may cluster on the top and around the sides of hives that are tiered up on some colonies, a great number of bees may be flying in and out of the hives which seem so strongly attacked, and many a novice might think the matter was beyond his control and imagine ruin staring him in the face.

I have seen even old, experienced bee-keepers get excited, and spray and throw water on these hives on which robbers were clustered in a frenzied attack; but if a close observation is made, it will be seen that these apparently frenzied bees take good care to keep out of the entrance. If one more venturesome than the rest does get in, it is roughly handled. The bees flying in and out so lively are bees that belong to that hive, and they are ready to fight to the death if necessary to defend their stores.

A colony of average strength, if in normal condition, will, before succumbing to robbers, make such a fight that it would always be remembered by one who witnessed it; and it is something I feel safe in saying but very few have ever seen. After a whole yard has, as the novice would think, begun robbing, it is in reality only the colonies as a whole becoming waked up to the fact that something unusual is taking place, and they are flying around to find out what it is. Then a general call to "repel boarders" follows, and in a few days things quiet down with no harm done.

Still, as a matter of fact, I think it much better to avoid as much as possible all disturbances of this kind in a yard, especially late in the fall, for it excites and worries large numbers of beee, and this may do harm by impairing their vitality to endure the long confinement of winter. But whenever I wish to handle a colony for any purpose, such as taking out or exchanging frames, I always do so without any regard whatever as to robbing, no matter whether a drop of honey is coming in or not. In some cases hundreds of robber-bees will get into the hive and on the combs of the colony being handled, but after the hive is closed up they are soon expelled and others prevented from entering. No precaution is taken except to contract the entrance more or less, depending upon the weather and strength of the colony. I do not advise others to do so, but I have practised this for years with no bad results. With nuclei the case is different. I have reference to full colonies, though they may be pretty weak, and still repel robbers if in normal condition.—C. DAVENPORT, in *American Bee Journal.*

Bee Shows to Come.

August 2, at Ramsey (Hunts).—Annual Show of the Ramsey Horticultural Society. Open class for honey, 1st prize £1 1s.; 2nd prize, 10s.

August 2, in the Grounds of Compton House.—Annual Show of the Yetminster District B.K.A. Open classes for single 1-lb. section and also for 1-lb. glass jar of extracted honey.

August 2, at Market Drayton.—Honey Show in connection with the Market Drayton Horticultural Society. Two open classes, twelve 1-lb. sections and twelve 1-lb. glass jars run honey.

August 3, at Exeter.—Devon B.K.A. Annual Show of Bees, Honey, and Appliances in conjunction with the Devon and Exeter Horticultural Society's Exhibition.

August 3, 4, and 6 (Bank Holiday), **at Birkenhead.**—Cheshire B.K.A. Show in conjunction with that of the Birkenhead and Wirral Agricultural Society. Numerous classes for hives, wax, and honey, including single 1-lb. jar competition.

August 4, at Helsby, Cheshire.—Annual Honey Show in connection with Flower Show. Two open classes. Schedules from Dr. Briant, Helsby, Warrington.

Bank Holiday, August 6, at Beddington Park, near Croydon.—Surrey B.K.A. Annual Show in connection with the Beddington, Carshalton, and Wallington Horticultural Society.

August 6 (Bank Holiday), **at Lichfield.**—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Two classes for members of the Staffs B.K.A. Open classes for dark honey and wax, and two for cottagers. Two medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 6 (Bank Holiday), **at King's Norton, near Birmingham.**—Honey Show in conjunction with the Annual Exhibition of the King's Norton Floral and Horticultural Society. Demonstrations in Bee-tent of Worcester C.C. by Rev. E. Davenport

August 6 (Bank Holiday), **at Melton Constable Park.**—North Norfolk B.K.A. Annual Honey Show in connection with the Horticultural Exhibition.

August 6, at Delapre Park, Northants.—Northants B.K.A. Honey Show in connection with the Horticultural Exhibition. Three open classes with special prizes, including one for single 1-lb. jar of honey.

August 7 at Leamington.—Honey show in connection with the Leamington St. Mary's Horticultural Society. Classes for both light and dark extracted honey and for 1-lb. sections. Schedules from W. P. Smith, Secretary, 22, Leam-street, Leamington. **Entries close August 2.**

August 8, at Marlow, Bucks.—Annual Show in connection with the Marlow Horticultural Society, under the auspices of the Berks B.K.A. Bees, hives and appliances; honey, &c. Twelve open classes. Liberal prizes. Schedules from A. D. Cripps, High-street, Marlow. **Entries close August 4.**

August 8, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1 lb. section and single 1 lb. jar, with no entry fee). Schedules from J. P. Inkpen, Neston, Corsham, Wilts.

August 9 at Madresfield.—Worcester B.K.A. Show of hives and honey in connection with the Madresfield Agricultural Show. Seven open classes. Schedules from John P. Phillips, Spetchley, Worcester. **Entries close August 6.**

August 16, at Abergwili.—Honey Show in connection with the Horticultural Exhibition. Open class for single 1 lb. jar Prizes 10s., 7s. 6d., 5s., 2s. 6d. (no entry fee). Exhibits to reach the Secretary not later than August 14. Schedules from J. Jones, 3, Gifregardens, Abergwili, R.S.O.

August 16, at Goole.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 11.**

August 18 at Selly Oak, near Birmingham.—Selly Oak and District Horticultural Association. Four classes for Comb-Honey in 1-lb. sections, Shallow-frames, Standard ditto, and Non-Sectional Supers. Lectures in the Bee Tent of the Worcester C.C. by the Rev. E. Davenport. Schedules from Mr. J. Muckley, Hon. Sec., Frederick-road, Selly Oak. **Entries close August 4.**

August 25, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and for appliances and wax, also for single jar and section, with free entry. Twenty other classes, for Scotland only. Liberal prizes. Schedules from Jas. Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 15.**

August 29, in St. John's Schoolroom, Blackpool. Annual Show of the Blackpool and Fylde Horticultural Society. Exhibition of honey under the auspices of the Lancs. B.K.A. Open classes for twelve 1-lb. sections and twelve 1-lb. jars extracted honey, with prizes of 20s., 10s., and 5s. each, also for single 1-lb. jar (no entry fee). Schedules from R. E. Stirzaker, Sec., Reddar-lane, South Shore, Blackpool. **Entries close August 20.**

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey. Schedules from J. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close August 8.**

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes." Liberal prizes and medals. Twenty classes in all. Schedules from James Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** Schedules now ready. (See advertisement on p. vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page ii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

S. T. (Hailsham).—*Honey Samples.*—1. The honey sent is not from sainfoin as supposed. The quality is good for a dark honey, and would stand well in a class for "medium coloured" honey.

Jas. Arthur, Jun. (Glasgow). — *Queen Rearing.*—1. We rather think the "point was missed" by yourself in not explaining that the nuclei referred to were formed by dividing the colony in which the queen-cells were reared. 2. As now put your second question, though paradoxically worded, is easily answered. You say: "What I wanted to know was is the virgin queen not mated when she leaves the hive with the cast?" We reply—second swarms (or casts) are always headed by a virgin queen, which, being a virgin, obviously cannot have been mated.

A. B. B. (Essex).—"*Jam-pot*" *Honey* (*?*).—The honey (?) sent has a more near connection with the jam-pot than the nectar of flowers. Whether you have a "sweets" factory or a preserve works near at hand we cannot say, but your sample is not honey at all.

Gilland (Surrey).—*Varieties of Heather—Soluble Phenyle.*—1. The long sprig of heath sent is, as you suppose, *Erica tetralix*. The other we should take to be a "sport" from the *Calluna vulgaris*, the foliage being similar to that variety, while some of the flowers are double. 2. Soluble phenyle is, as stated in "Guide Book," a valuable disinfectant, different to carbolic acid in being non-poisonous and non-corrosive as regards human beings and animals.

Suspected Combs.

K. Macleod (Shandon, N.B.).—There are signs of foul brood of old standing in comb sent. We should not advise destruction of the stock at once, or at least till we have made a microscopical examination of combs, and reported more fully in our next issue.

R. E. (H.).—1. Under the circumstances it may be advisable to try the treatment in "Guide Book" as proposed. But it will need careful watching to see how brood hatches out; and if any further symptoms of foul brood present themselves, we should adopt the "sterner measures" mentioned. 2. Foul brood will not generate from chilled brood.

*** *Several communications are in type and will appear next week.*

Editorial, Notices, &c.

STAFFORDSHIRE B.K.A.

ANNUAL SHOW.

The above show was held at Stafford in conjunction with that of the Staffordshire Agricultural Society on the 24th and 25th ult.

The display of honey, bees, and appliances under the auspices of the Staffs. Bee-keepers' Association was extremely creditable. The entries in every class were numerous, and it is most gratifying to note that those which showed the greatest increase over previous shows were the cottagers'. Some tasteful trophies were entered in the class for "honey in any form." Mr. Harry Wood, as in previous years, was a good first with a trophy very effectively and elegantly arranged. Other creditable exhibits were those of Messrs. R. H. Coltman, A. Bayley, and W. Scarlett, of Stafford, the latter, however, not for competition. There was a large class of comb honey in sections, the average quality being good throughout. Of extracted honey there was a very good entry from local exhibitors. In the class for dark honey there were even thus early in the season samples of heather honey. The granulated honey of last season was very fine. The bees in observatory hives were an interesting feature of the show and, as usual, attracted much attention. The cottagers' classes, to which we have already incidentally referred, have never been so well filled before, and the honey was of very good quality. In the open classes there were some splendid samples of honey, and of varied colours according to the district from which it came.

The arrangement of the show was, as heretofore, under the management of Mr. Cock, the County Council expert, and Mr. Crisp, the hon. secretary, whose labours resulted in a very effective display of the exhibits. Mr. Cock gave a lecture each day in the bee-tent, including demonstrations in bee-driving, &c.

The Revs. J. T. Buckler, Bidston Rectory, and J. T. Evans, Tarvin Vicarage, Chester, officiated as judges and made the following awards :—

Honey Trophy.—1st, H. Wood, Paradise, Lichfield; 2nd, R. H. Coltman, Burton-on-Trent; 3rd, A. Bayley, Wordsley.

Twelve 1-lb. Sections.—1st, H. Wood; 2nd, G. W. Buttery, Wheaton Aston; 3rd, J. Lucas, Fradley Junction, Lichfield; 4th, F. Law, Pattingham; h.c., C. C. Robson, Penkridge, and J. Pellington, Stafford.

Three Frames of Comb Honey for Extracting.—1st, G. W. Buttery; 2nd, F. Law; 3rd, A. Bayley.

Twelve 1-lb. Jars Extracted Honey.—1st, G. W. Buttery; 2nd, R. H. Coltman; 3rd, E. Clowes, Blackbrook, Newcastle; 4th, W. Stendall, Rodbaston; v.h.c., A. E. Heath, Pillaton Hall Farm.

Twelve 1-lb. Jars of Dark Honey.—1st, W. Sproston, Shugborough; 2nd, W. Hutchinson, Leek; 3rd, F. J. Hall, Lichfield; h.c., H. Wood; J. Stubbs, Rickerscote, Stafford.

Six 1-lb. Jars Granulated Honey.—1st, A. Bayley; 2nd, E. Clowes; 3rd, W. Hutchinson; v.h.c., H. Wood; h.c., Jas. Thurstans, Pattingham.

Observatory Hive, with Queen and Bees.—1st, E. S. Lord, Longsdon, Stoke-on-Trent; 2nd, E. Clowes; 3rd, J. R. Critchlow; v.h.c., A. Bayley.

Beeswax.—1st, E. Clowes; 2nd, A. Bayley; 3rd, H. G. Wilkes; h.c., J. Stubbs.

LABOURERS' CLASSES.

Twelve 1-lb. Sections.—1st, Jos. Leadbeater, Tillington; 2nd, Jos. Yapp, Horsebrook, Stretton; 3rd, T. Taylor, Pattingham; h.c., Jas. Thurstans.

Twelve 1-lb. Jars Extracted Honey.—1st, T. Taylor; 2nd, Wm. Croom, Weeford; 3rd, Jas. Thurstans; v.h.c., Mrs. Leadbeater, Tillington.

Six 1-lb. Jars Extracted Honey.—1st, Jas. Thurstans; 2nd, T. Taylor; 3rd, Jos. Leadbeater.

OPEN CLASSES.

Twelve 1-lb. Sections.—1st, W. Woodley, Beedon, Newbury; 2nd, S. Cartwright, Shawbury, Shrewsbury; 3rd, A. Lucas, Fradley Junction; h.c., J. Onion, Bishop's Wood, Brewood.

Twelve 1-lb. Jars Extracted Honey.—1st, J. R. Critchlow; 2nd, H. F. Beale, Andover, Hants; 3rd, W. Woodley; v.h.c., E. Clowes, and H. Pears, Mere, Lincoln.

Twenty-four 1-lb. Jars Extracted Honey.—1st, Jas. Onion; 2nd, E. Clowes; 3rd, F. Law; v.h.c., G. W. Buttery; h.c., G. Baddeley, Newport.

Collection of Hives and Appliances.—1st, R. H. Coltman, Burton-on-Trent.

The two reverend gentlemen who acted as judges also conducted an examination—on behalf of the British Bee-Keepers' Association—of candidates for the 3rd class experts' certificate of the B.B.K.A.—(*Communicated.*)

HONEY SHOW AT ELY.

The Cambridge and Isle of Ely B.K.A. held their annual show, in connection with that of the Cambs. and Isle of Ely Agricultural Society, at Ely, July 31, 1900. It was a good little show. The honey staged was, as usual in this district, of good quality; the display of wax distinctly below the average; and I think the district should provide more entries in order to increase the interest of the public in the craft.

Mr. T. I. Weston judged the honey exhibits and made the following awards :—

Six 1-lb. Sections.—1st, A. Barber, Comberton; 2nd, H. Seamark, Willingham, Cambs.; 3rd, M. Seamark, Willingham.

Six 1-lb. Sections (Open Class).—1st, A.

Barber; 2nd, M. Seamark; 3rd, H. Seamark.

Twelve 1-lb. Jars Extracted Honey.—1st, F. R. Ford, Barwell, Cambs; 2nd, J. Barnes, Barwell; 3rd, H. Seamark.

Single 1-lb. Jar Extracted Honey.—1st, F. R. Ford; 2nd, H. F. Beale, Andover, Hants; 3rd, H. Seamark; v.h.c., H. F. Beale; h.c., A. Barber, and Johnson & Son, Soham, Cambs.

Three Shallow Frames Comb-Honey.—1st, J. Barnes; 2nd, F. R. Ford; 3rd, Johnson & Son; v.h.c., A. Barber.

Beeswax.—1st, J. Barnes; 2nd, H. Seamark.

Display of Honey.—1st, H. Seamark; 2nd, F. R. Ford.

Three 1-lb. Sections (Open Class).—1st, G. Spearman, Colesbourne; 2nd, H. Croot, Longstanton; 3rd, M. Seamark.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

PARIS EXHIBITION:

THE APICULTURAL DEPARTMENT.

[4054.] Although apiculture can hardly be said to be as well represented at the Paris Exhibition as many other agricultural industries, yet the French exhibit is a fairly good one, and gives a very good general idea of the state of bee-keeping in different parts of France. Hives and appliances are not so numerous as the bee-products themselves, but most of the well-known French types are represented. Judging from the frames shown, no standard size appears to be generally accepted; but all of them are larger than the English standard-frames. This appears to necessitate special distance pieces at the bottom of the frames—an additional complication from which British bee-keepers are exempt. Instead of the flexible quilts to which we are accustomed, French bee-keepers appear to prefer thin pieces of board for covering the tops of their frames, a method which must give rise to a considerable loss of bee-life every time it is necessary to inspect the frames. Steel wire, coated with zinc, is very generally employed for wiring the frames; it is cheaper than our tinned wire, and there does not appear to be any valid objection to its use as compared with the more expensive article. Among the minor apparatus some, such as the tongs for taking out the frames, are necessitated by special constructions of hives, and have nothing to interest us in England. Others, again, are cumbrous and antiquated; for [illegible] a smoker actuated by clockwork was [illegible] which appeared more suitable for a [illegible]rnace than for producing the few puffs [illegible]moke necessary for subduing a well-regulated stock of bees. Some good moulds for the home manufacture of foundation presented points of novelty as compared with the well-known Rietsche machine. These moulds are cheap and make a serviceable foundation; they deserve more attention from our own bee-keepers. For uncapping honey-cells for brood stimulation in the spring a small nickel-plated comb with long points is very generally used, and possesses several advantages over a knife for that purpose.

The show of comb-honey was extensive, and some of the shapes in which the bees had been compelled, or perhaps we ought rather to say persuaded, to build their combs were *bizarre* in the extreme. It was worthy of notice that most of the larger exhibits of comb-honey were in bad condition, only the smaller sections were at all presentable. The high temperature prevailing—these notes were written at 96 deg. Fahr.—may partly account for this; but the practical fact remains that large masses of comb-honey, from 2 lb. upwards, can hardly be expected to remain intact. The run honey seemed to be good in quality, and the vessels in which it was packed were of very varied character. As regards wooden packages, the little kegs in which much of the honey was exhibited showed unmistakable signs of leakage. There appears to be an impression that a metal vessel interferes with the delicate flavour of honey; but, however that may be, wood is certainly an unsuitable material for containing such a liquid. Some 1-lb. and 2-lb. glass vessels, with glass screw stoppers, looked neat and attractive, in this respect being far superior to our shapeless jars with metal screw caps. The joint was made with an india-rubber ring, an unsuitable material, for which a better substitute may easily be found.

From an educational point of view there were some interesting exhibits of various kinds of bees and bee enemies; entomology in general, as affecting agriculture, was very well represented. A good set of wall diagrams for illustrating lectures on apiculture decorated part of the section.—WALTER F. REID, *Fieldside, Addlestone, August 3.*

GEARED EXTRACTORS.

INEXPENSIVE METHOD OF FITTING GEARING.

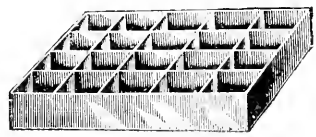
[4055.] While it is a fact that honey may be readily extracted by means of an ungeared extractor, yet there is not the slightest doubt that the saving of time (to say nothing of ease in working) will more than repay a few hours' work and the expenditure of a few shillings upon fitting gearing to same. Having recently

fitted one in the manner here described, I thought perhaps a description might be of use to others who, like myself, find amusement in metal-working. The materials necessary are one bicycle chain-wheel with eight teeth, and one ditto with eighteen teeth. These we shall buy in the rough (stampings). Half an ordinary bicycle-chain (same pitch as wheels), one 4 in. by $\frac{5}{16}$ in. bolt with two nuts, and a small piece of lead. The large and small wheel cost me (in the ordinary way of trade) 4d. and 8d. respectively, the chain 1s., and the bolt 2d. To this must be added the cost af drilling top-bar of extractor, if we have not means of doing the same, say, cost 6d., making a total of under 3s. for materials.

Having got the materials, we proceed as follows :—Take off the handle of extractor, by filing away the "burr," if it is rivetted on to centre pin, or by unscrewing nut if it is secured by a "thread" and nut. Next take small chain wheel, put in vice and file all roughness off. The ease, &c., of running will largely depend upon how this is done, but if all the roughness is filed off, it will be found that the gearing will be sufficiently free to work without much noise. It will now be noticed that the central hole in stamping is $1\frac{1}{4}$ in. (about) in diameter, and, as the central spindle of extractor is only about $\frac{5}{8}$ in., some method of "bushing" is required. To do this place stamping as nearly central as possible on spindle, packing it up about 1 in. off top-bar with a piece of clay (not too wet) or putty ; then melt the lead in an old iron spoon or ladle, and pour same round wheel ; when this is cold lightly tap same with hammer, and it will then be found that the small wheel is firmly secured to spindle. Now measure 6 in. from centre hole of top-bar and drill a $\frac{5}{8}$ in. hole at same, then bore a similar hole $1\frac{1}{2}$ in. nearer to outside of extractor, and filing the metal away between these two, will give us the necessary slot for tightening the chain. Then take in hand the large wheel ; file the teeth in the same manner as the small one, then fit (an easy fit) the $\frac{5}{8}$ in. bolt through the centre of same, with the "head" uppermost. Insert the screw end through the slot in top-bar, first screwing on one of the nuts such a distance that the wheel is in the same line as the small one, then screw on the other nut underneath the top-bar, and this will secure the wheel in its place. Now, take the chain, examine same until the nut which joins it is found, unscrew, and cut off the chain at link nearest to length required, by filing off the head of pin rivet and punching it out. Now join the chain round wheels by inserting the screwed pins, first slackening the nut which holds the large wheel ; draw out same in slot till the chain will run freely, then again tighten the nut. Now take the handle and fix same on large wheel. This can be done by drilling two $\frac{1}{8}$ in. holes in arm of handle and spoke of wheel, and putting two rivets through same, or the handle may be bound to wheel with some copper wire. The number of teeth suggested (eight and eighteen) on stamping are those usually stocked, and will give a speed of (roughly) $2\frac{1}{2}$ to 1, which will be found ample. Well oil all parts, and run for a few revolutions, wipe off surplus oil, and the job is accomplished.—WILL HAMPTON *Richmond, August 3.*

THE "W. H." WAX MOULD.

[4056.] The above mould, as originally made to hold 6 lbs. of wax, was found to be too large for many bee-keepers who have only small quantities of wax to put on the market, I have, therefore, completed arrangements to have it made in *four* sizes, holding the following weights :—No. 1, $1\frac{1}{4}$ lbs. ; No. 2, 2 lbs. ; No. 3, 3 lbs. ; No. 4, 6 lbs. Nos. 1 and 2 are made to cast 1 oz. cakes, and Nos. 3 and 4, 2 oz. cakes, when all the divisions are in use ; by omitting some of these, larger



cakes may be obtained in any of the moulds at the will of the operator. Your readers are referred to B.B.J. advertising columns for prices, and orders may be sent direct to the manufacturer, who will forward all necessary instructions for working the appliance.—W. H., *Brilley, Herefordshire, August 3.*

VISIT TO A "BEE PARADISE"

AND MR. LANCELOT QUAYLE'S BEES.

[4057.] The selection of the spot where the summer holiday shall be spent is exercising the minds in many homes at the present time, and having just returned from one I hope it may interest your readers if I give them my experience, more especially as the place selected has a peculiar interest to bee-keepers, for it gave me the opportunity of visiting one of the best known apiaries (by repute) in the country. As far as I remember, it is known to your readers only by the rare occasions on which its owner favours your columns with a contribution. When, therefore, we selected the Isle of Man for our short summer holiday, our first thought was that it would give us the opportunity of visiting the bee-keeper who certainly holds the record for the largest surplus taken from one stock in this country.

It was with pleasurable anticipation that in the small hours of a Saturday morning we joined the train for Liverpool, which we reached in time to spend an hour or two before joining the Douglas boat for the Isle of Man, which was safely reached about 2 p.m. Having noticed in your advertising columns an invitation to "brother bee-keepers," we at

once proceeded to Merridale House, where we met with a very cordial welcome from Mr. Horsley, who we found to be an old Wolverhampton bee-keeper, and I need hardly say we were soon on the most happy terms together. I hope, Mr. Editor, you will not grudge him a gratuitous advertisement if I say here that I can confidently recommend any of your readers who contemplate a visit to the Isle of Man to try Merridale house first; they will find it a most comfortable place, and Mr. Horsley a congenial host. Naturally we had not long been there before we inquired as to the whereabouts of the "record-holder. Our information was that he resided at Glenmay, but our host, who has been several years on the island, had not yet had the opportunity of visiting it, and volunteered to accompanying us on the following day. This offer was gladly accepted, and next afternoon we set off by rail for the ancient and interesting town of Peel. From here a walk of some three miles through scenery characteristic of the island brought us to the beautiful village of Glenmay. On making enquiries for the house of Mr. Quayle, we were asked: "What, Lancelot? He lives down in the Glen at the Post Office." This we soon found, and were fortunate in finding Mr. Quayle at home; and having introduced ourselves, we met with a most cordial welcome along with a cup of tea, which was much appreciated. Naturally, our talk was of bees, and we found our host most intelligent and enthusiastic on the subject. After tea the apiary was visited, and, of course, we wanted to know which hive was the "record holder." It was pointed out, and had on three racks of shallow-frames, with bees working in them with such real earnest, as to afford ample evidence that it means to retain its proud position, if the bees get a chance. There were some eighteen other stocks, all of which seemed in flourishing condition.

The question will, doubtless, arise in the minds of your readers, How does Mr. Quayle obtain the enormous surplus from his hives? I must confess to having set out to visit his apiary in a somewhat incredulous frame of mind, but I left it quite convinced that it was quite possible in favourable seasons to obtain these results. I have visited a large number of apiaries in many parts of the country, and I can safely say that, having regard to situation and surroundings of the Glenmay apiary, I have never seen a spot so well adapted for bees. My pen fails in attempting to describe the beauties of the place, for, apart from its advantages from a bee-keeper's point of view, one can almost imagine oneself in fairyland. Mr. Quayle's house is situated in a deep mountain gorge, through which runs a purling stream, and a little farther on forms one of the most beautiful waterfalls, of which there are many in the island. In this sheltered nook, free from the gales and extremes of temperature, the bees are surrounded with a wealth of flora of which most of us bee-keepers have no conception. A short walk with our host soon brought to view what is probably the main source of the bee-forage. Among others we may mention gorse, wild thyme, sage, blackberry, fuchsia (a small-blossomed kind), white clover, heather, together with others too numerous to mention. Thus it will be seen that a sequence of "honey-bloom" is found in such abundance, and which makes such a lengthened season, that it is not at all surprising the bees are enabled to obtain such large returns. Placed in such a convenient and sheltered position they have only to fly up the mountain sides to reach a wealth of the finest honey-producing plants in sheltered spots favourably placed for honey gathering. Mr. Quayle told us he had never seen either the blossom of the lime or sainfoin, nor could we learn that sainfoin is grown at all on the island, while only in one or two instances did we see a lime tree anywhere. The season in the Glenmay district lasts from mid-June well into September, and bearing in mind that Mr. Quayle's bees can gather honey in all but the worst of weather, he has peculiar advantages over most of us bee-keepers.

After a walk round the Glen, our host accompanied us part of the way back to Peel, during which we admired the beautiful scenery and various points of interest which met us on every side. "There," said our friend, pointing to a track in the mountain purple with heather blossom, "is the road taken by Dan Mylrea when he was banished," referring to the hero of Hall Caine's novel, "The Deemster," a book which has almost made the Isle of Man classical soil.

With a hearty shake of the hand we parted with one in whom we had found a congenial spirit, and we had had the pleasure of spending a few short hours with an intelligent and typical Manxman, his parting words being, "If you come this way again I hope we'll get a sight of you."—A. D. WOODLEY, *Hillcrest, Caversham, Reading, August* 4.

(*Correspondence continued on page* 316.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The House-apiary seen on next page forms a not unwelcome change in our "Homes of the Honey Bee" pictures, as showing what can be done with bees "under cover." Moreover, Mr. Rogers has conferred considerable benefit on a large body of readers by describing in detail his method of managing bees on a large scale in a house, while avoiding the risk of so infecting the bee-house with foul-brood germs as to render it almost worthless as a domicile for bees, as is too often done by careless bee-keepers. He says:—

"In reply to your request I have much pleasure in sending you a few lines about my

bee-house. Being an engineer by profession, I have taken a great deal of pleasure in designing the best and cheapest methods of producing honey and reducing it to a system. My aim has been for many years to produce as much honey as possible with the least expenditure of money and labour. The reason that I first put up a bee-house was that, being a busy man, I, some fifteen years ago, found it impossible to give proper attention to even half-a-dozen stocks, as it was so often wet or cold when I had time for manipulating my hives. I, therefore, converted a "dairy" into a bee-house, and was, in consequence, able to work amongst my bees in wet weather and even at night. I have since built several bee-houses for myself. The one seen in photograph being the last and combining the good points of all.

"At the end of the room in which the hives are placed there is a second room for stores, spare hives, &c., and out of this leads another room in which I do all the work connected with honey and wax. In the windows of the two latter rooms are arrangements to allow bees to escape but not to enter. The sides of the room where the hives stand are made of perforated zinc with proper arrangements to allow the bees to escape but not to enter when I am manipulating. The building was very inexpensive, and I consider that, taking into account the cheap hives that can be used under cover and the reduced wear and tear to them, the house is an economy, and I would sooner overhaul three hives in such a house than one in the open. In order to minimise the risk of young queens entering the wrong hive on returning from their wedding flight, I have a large white alighting board, a large black one and no alighting board at all alternately, so that there is only a similar entrance every third hive.

"Being a practically bee-proof building no trouble or annoyance from bees is experienced when taking honey, and no honey being spilt where bees can get at it the danger of robbing is reduced to a minimum. The catching of queens (which is no light task in an apiary of fifty hives where all the queens are dethroned every year) is much less troublesome and takes much less time when you are not worried by bees flying around you.

"I make my hives myself, and they are of the simplest construction. The brood-chamber and the supers are exactly similar, and all interchangeable, so that I can lift one chamber and put another under it almost without disturbing a bee.

MR. J. H. ROGERS' HOUSE-APIARY, FOREST ROW, SUSSEX.

"Some may object to my having a row of hives above those on the ground, but I find no objection to it, and the bees prefer the upper row. Several times vagrant swarms have taken up their quarters in empty hives in the upper row, but never in the lower, and the bees in the upper hives are at work earlier in the morning than those in the lower, and they winter better.

"Our great trouble in this neighbourhood is foul brood. I keep it at bay with naphthaline balls in the hive and naphtol beta in the food. In the corner of the room next the bees' quarters I have a tank half full of soluble phenyle solution into which I dip every hive when emptied, section-crates, division-boards, uncapping-knives, and even smoker, all have a dip after being in use. All tables and pans are washed with the solution after use, so that my bee-house always has a clean smell of carbolic acid, and foul brood germs have but a poor chance of taking root. You will see that each hive has a card hanging close to it. On these cards I keep a diary of each hive. They are more convenient than slates, as they can be put away and kept for reference for years, and I find them most useful."

CORRESPONDENCE.

(*Continued from page* 314.)

BEES FIGHTING OVER WET COMBS.

[4058.] I have just read the article "About Robber-Bees," on page 308 of B.B.J., and the knowledge it imparts must be of a very reassuring character to any who have witnessed these disturbances without also seeing the heap of dead at each hive. I myself have only had one day's experience this year of "robbing," if it could be so-called, and it is what caused the trouble that leads me to write. I had a beeless hive—into which some combs, wet with honey, had been put—some fifteen yards away from six colonies in my apiary. By some means one morning the bees had got into the hive first named, as someone had disturbed the roof. I therefore took off roof, and, as there was a commotion inside, I, to make it worse, put a second beeless hive alongside the first one, with six more wet combs in it, thinking the bees would clear up the whole and make all clean. Having done this I was away for two hours, and, on returning, went to see how the bees were getting on in the work of cleaning up the wet combs, and, to my astonishment (for I thought they never fought, only at their own hives), I saw dead bees lying all around, quite 1,000 or more of them. I also noticed that bees were actually guarding the entrance and, apparently, killing would-be intruders. I thought that a swarm might possibly have entered and that the fighting was the result of my carelessness, so searched for a queen, but without any result. The "upset" also spread to the other six hives, several dead bees being seen on the ground; but I soon put matters right. Is it not unusual for fighting to take place in the open?—H. C. H. M., *Malvern, August* 3.

[One of the axioms in bee-keeping is, never leave wet combs—or combs containing honey—lying about in autumn. It is one of the greatest inducements to "robbing," because, after bees have partaken of stolen sweets, they begin to prowl about weak stocks, on mischief bent. The "fighting" noticed in the above case probably resulted from the bees of the hive from which the "wet combs" were taken recognising their own stores and resenting the "remainders" left in them being carried off by other bees.—EDS.]

UNITING BEES.

[4059.] On July 18 I united two lots of bees, having removed old queen and left young mated one in the hive, which I will call (A). The bees killed this young queen, so I introduced old one again to them, July 21, and she was accepted. On July 23 I found a swarm which had come from one of my hives, and as I only had two old queens I concluded it had come from bees in (A), especially as I found queen-cells capped over; so I put them back in this hive, but very quickly discovered that the swarm had really come from a second hive, which I will call (B). Hive (B) possessed a young queen mated in June—ten frames full of her brood, and had on forty-two sections, none of which were sealed over. I examined this hive and found queen-cells in all stages, some capped over. Meanwhile, a battle was raging in hive (A), and I did not know what to do, so I opened it agian, saw the two queens, by good luck, and got one out safely, which I shall reintroduce into hive (B). Is it not very extraordinary for a this year's queen to swarm under such circumstances as these?—C. H. L., *Skipton, Yorks.*

[It is very unusual for a young queen to issue along with a swarm two months after being hived.—EDS.]

A SWARM OF "BEES.

[4060.] I found this "swarm" hanging from a hook in a London bedroom, possibly some of our readers may like to see it:—

"B's' WORTH HIVING.

B Patient, **B** prayerful, **B** modest, **B** mild,
B Wise as a Solon, **B** meek as a child;
B Studious, **B** thoughtful, **B** loving, **B** kind,
B Sure to make matter subservient to mind;
B Cautious, **B** prudent, **B** trustful, **B** true,
B Courteous to all men, **B** friendly with few;
B Temperate in argument, pleasure and wine,
B Careful of conduct, gold, time that is thine;
B Cheerful, **B** grateful, **B** ready to earn,
B Peaceful, benevolent, willing to learn;
B Courageous, **B** gentle, **B** liberal, **B** just,
B Aspiring, **B** humble, because thou art dust;
B Hopeful, **B** circumspect, sound in the faith,
B Active, devoted, **B** faithful till death;
B Honest, **B** holy, transparent and pure,
B Strong and **B** Christlike and you'll be secure.

N.B.—To hive the swarm, secure the King B., place the skep in the garden of "content," the working B's will soon join him.—AN ESSEX BEE-KEEPER, *July* 31.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

JULY, 1900.

Rainfall, 1·15 in.
Heaviest fall, ·47 in., on 27th.
Rain fell on 8 days.
Below average, 1·53 in.
Maximum Temperature, 83°, on 19th.
Minimum Temperature, 43°, on 8th.
Minimum on Grass, —.
Frosty Nights, —
Sunshine, 292·4 hrs.
Brightest Day, 10th, 15·5 hours.
Sunless Days, 1.
Above average, 67·2 hours.
Mean Maximum 71·1°.
Mean Minimum, 54·7°
Mean Temperature, 62·9°.
Above average, 2·7°.
Maximum Barometer, 30·44°, on 17th.
Minimum Barometer, 29·76°, on 2nd.

L. B. BIRKETT.

CONVERSATIONS WITH MR. DOOLITTLE.

MANAGING SWARMS WITH CLIPPED QUEENS.

"Say, Brother Doolittle, I am having trouble with my swarms which have clipped wings, and I came over this afternoon to have a little talk with you about the matter, to see if you cannot tell us something more about it than you did in the May 15 number of *Gleanings*."

"Well, Brother Swift, I will do the best I can to help to; but you should always bear in mind that no person can well get all of the minutiæ of anything into one number of a bee-paper. What seems to be the trouble?"

"In the first place I did not seem to be able to get the bees to alight on the swarm-catcher having the caged queen in it. I held it up in the air in the thickest of the bees, but they paid no attention to it, but went right to clustering on a limb of a tree."

"They will sometimes persist in doing this; and to overcome this part of the matter I sometimes hold the catcher close up in front of the hive where the bees are issuing, so as to catch a pint or so, when the cover is shut over these bees and the caged queen. Now hold it up in the air, as spoken of in a former number of *Gleanings*, and the bees in the catcher, together with those in the cage, will fan their wings, which tell those in the air that they have found the queen and are clustering about her, when, as a rule, with me, the swarm will at once begin to cluster on the swarm-catcher. However, some swarms seem bound to cluster on the limb of a tree; and where this is so, as soon as from one-fourth to one-half have clustered I open the catcher, leaving the caged queen inside, catch what has clustered in the catcher, closing the cover. I now leave the catcher with the bees inside till all of the bees which are outside cluster on it, when they are taken and hived the same as a swarm from a limb."

"But suppose you do not find the queen before the bees have all ceased to leave the hive, how do you then get the bees to tell the others the queen is in the catcher?"

"If the bees all get out before I find the queen, then I allow them to start to cluster, and proceed as before. Or I sometimes hold the catcher in front of the entrance before I find the queen, if I do not see her readily, and, after finding the queen, I slip the cage containing her in with the bees."

"Do you ever have any trouble from the bees not clustering on the limb or on the catcher, but returning while you are trying to get them?"

"Yes, I have had them return without clustering anywhere."

"And did they always go back to their own hive, or did they scatter all about, entering wrong hives and getting killed to the amount of half or more of the swarm?"

"Sometimes they are inclined to enter wrong hives, especially if the hives stand close together; but with hives standing ten feet apart each way, on the hexagonal plan, as do mine, it is quite a rare thing to have the bees of any swarm try to go into wrong hives."

"Only the other day I had a swarm scatter all about, or spread out all over the whole apiary, instead of clustering, then in a few minutes they commenced to go into half a dozen hives all at once, and nearly all of them were killed. This made me feel very bad, and I almost resolved never to clip another queen. I thought they might better have gone to the woods than to have been killed in this way."

"This *was bad*, and something which I never had happen in all of my thirty years experience with clipped queens; but, even bad as it was, you had the queen left, which you would not have had where a swarm absconds. I presume I should have gone more into the minutiæ of affairs in my article in *Gleanings* for May 15, but it had been so many years since I used to have trouble from swarms entering wrong hives that I had nearly forgotten this part."

"Then you did have trouble from swarms entering wrong hives when you were beginning to work with swarms which had queens having clipped wings?"

"Yes, somewhat, for two or three years; and it is strange that trouble often comes along many lines to a beginner which do not come to us when we are more advanced in apiculture, even though that which we try in our advanced period may be entirely new to us. In our novice stage we lack that calmness and steadiness that we have after years of experience, and so we go at a thing with a nervousness and fear which is sure to work evil results if such results are possible. Then we are so anxious for success that we greatly magnify a slight reverse, thinking and talking of it as '*perfectly awful*.' The same thing happening in our riper years would scarcely cause a ripple to come over our feelings. At least this is the way it has been with me."

"But is there no way of preventing bees entering wrong hives when returning, after missing their queen?"

"Yes. And one of the first things I learned when caring for swarms having clipped wings was that I should have near at hand from two to four old sheets or blankets to throw over any hive or hives a returning swarm might start to enter. And I used to go to the precaution of throwing a sheet over the two hives standing on either side nearest the one which had cast the swarm. But you will see how easy it was for me to forget this when I tell you that I have not used a sheet for this purpose in ten years."

"I am glad for this explanation, for it makes me feel better in knowing that you used to have trouble along the same line I have had; and as you have succeeded, I believe I can if I can only 'hold out faithful.' But should you not wish to use the swarm-catcher or the

Heddon plan, as given in the May 15 *Gleanings*, have you no other plans to use?"

"Yes, I often use two other plans, one of which is as follows: Proceed to find the queen, as given in May 15 *Gleanings*; and when she is found and caged, turn the old hive half way around, and off the ground (to the rear) where it stood. Now place the new hive on the old stand, or where the old one stood, placing the caged queen at the entrance. As soon as the bees come back, and half or more of them have entered the new hive, let the queen run in with them. Now wait till the most of the bees have entered the new hive and become comparatively quiet, then take the hive, swarm and all, and carry it to a new stand where you wish it to stay, after which the old hive is brought back to its old position."

"I think I understand how to do this. What is the other plan?"

"Proceed to hunt up the queen as before; and as soon as she is found and caged lay the cage in some convenient place; only so you do not step on the cage and kill her, as I knew a certain person to do once. Next move the hive from which the swarm issued to a new stand, where you wish it to remain, and place a new hive where the parent colony stood, getting the caged queen and placing her at the entrance. In from three to forty minutes the bees will miss the queen (in from three to eight if they do not cluster, and in from eight to forty if they cluster), and come back in search for her, when she is to be allowed to go in as before spoken of."

"Well, I must bid you good day now. I am glad I came over, for I feel more encouraged to go on now."

"I am glad you came, if I have been of any help to you. I know that, to one who has been used to hiving swarms whose queens go with them, the clipped-queen management seems to have its drawbacks. But when we get a little used to it, there is a certain independence and assurance about it, as well as no climbing of trees, no cutting of limbs, nor any thing of the kind, which our fathers thought it necessary to do, that makes us feel that we are masters of the situation, and are much in advance of the old ways." — *Gleanings (American)*.

Queries and Replies.

[2473.] *Taking Bees to South Africa.*—I am intending to take out four nucleus colonies of bees to the Transvaal. The queens respectively heading them are (*a*) a pure imported Italian, (*b*) a native, (*c*) a fourth-grade Italian, and (*d*) a second-grade Italian. 1. Do you advise me to try others as well, such as Carniolan or Cyprian? 2. Can you give me a few hints on transporting them? I will be able to take care of them myself on the voyage and railway journey. 3. My travelling hive for holding the four nuclei consists of a square box holding twelve standard frames, with three perforated zinc divisions, so that each nucleus has three frames. There is a wire-gauze floor and roof, so that they can have plenty of ventilation. There is a space above the frames and divided (as below) for feeding, &c. It is 2 in. deep. I intend feeding on pea-meal candy and giving water in a sponge. I will let the bees have a fly as soon as I get to Cape Town, and stay there a day or two before starting for the Rand. Am I right with regard to the safety of my plan? 4. Do you think the divisions of perforated zinc quite safe? 5. I had queens in the four, and the two centre ones lost their queens. How do you account for that? They cannot possibly get from one nucleus to another except by doorway, and these are so arranged that there is one at each side of the box. 6. Do British bees do well in South Africa? — JAMES A. ROBERTSON, *Dumbarton, N.B.*

REPLY.—1. Four nucleus colonies will, we think, be quite enough to burden yourself with, and there is plenty of variety. 2. A very full account of a bee-keeper's experience in taking bees to South Africa appears in the B.J. of February 11, 1897, and as the writer was a well-known English bee expert, his views possess more value than anything from one with no personal experience on the subject. We therefore cannot do better than refer you to the B.J. mentioned, which may be had from this office for 1½d. in stamps. 3. We incline to the view that there are more chances of success by taking out a single frame of bees only (with queen) for each nucleus, and packing the several frames in one travelling-box with perforatod dividers of wood between in preference to zinc. By so doing, as many as six or seven lots might be carried in a moderate-sized box. With regard to feeding with pea-meal candy, we would on no account advise this; nitrogenous food is not needed on the journey, and therefore we would keep to either soft candy in form of stiff paste made with honey and icing sugar, or use only syrup food. 4. As stated above, we prefer wood to zinc for several reasons. 5. It is well known that nucleus colonies housed under one roof (as in Wells hives) frequently lose the queen of one compartment and "join forces" in the other. 6. From reports we should say the yellow bees or their hybrids are more suited to South Africa than the ordinary brown variety common to this country.

[2474.] *Bees Dying Outside Hives.*—I shall be obliged if you can inform me what is the matter with the bees in one of my hives and the cure. The hive (a "W. B. C.") is one of seven, and is the only one affected. Till about three weeks ago it was was particularly strong in bees on eleven standard frames, every available cell of which was filled with eggs and

healthy brood in all stages. About that time a strange mortality set in, and is still continuing. The affected bees crawl out of the hive in an exceedingly helpless condition (their legs appearing to be next to useless), and steadying themselves on the board with their wings, they soon turn over on their backs, and after twitching convulsively for a short time, die! This has gone on daily, the number of deaths ranging from a score or so up to a couple of hundred per day. Last week the queen (a last year's Ligurian-black) succumbed, being found one morning on the landing-board in a dying condition. I re-queened the same evening with a young queen got from a neighbouring bee-keeper. She was received all right, but persistent wet weather has prevented me since from making any examination of the hive. The excreta of the bees is of a peculiar rod shape, running up to ¾ in. long, and is hard and dark coloured. None of our local bee-keepers can help me in the matter, having had no similar experience, but one believes that constipation is the cause. In this view I have given nightly for a week a bottle of thin, hot syrup, but so far without result. Can you diagnose the disease from the above description, or would you like me to forward a few dead bees for examination? I shall be grateful for your advice and thank you in anticipation.—J. ROBERTSON, *Bearsden, N.B., July* 24.

REPLY.—The details given above point to the disease by which the bees are affected being that known as bee-paralysis, but it is very difficult to diagnose the case correctly from mere description; nor would a post-mortem examination assist us much. If our assumption is correct, it may be said there is no recognised remedy for the complaint. American bee-keepers, who have had experience of the disease, recommend salt as being helpful in restoring bees to normal condition. On the other hand, we have known cases where bees have been similarly affected for several weeks and then recover their ordinary health without remedial measures of any kind being taken. In any case, it will be well to see how the colony gets on after the progeny of the young queen take their places as field-workers, and we shall be surprised if the trouble does not then disappear altogether.

[2475.] *Sending Driven Bees by Rail.*—I should be much obliged if you could tell me if it would be quite safe to send driven bees by rail in the following way:—A small wooden box, lid screwed on. For ventilation, a hole cut in top of lid and covered with perforated zinc to prevent escape of bees; labelled "live bees"? 2. Would you also kindly tell me how large a box should be to hold 6 lb. of bees? If you can suggest a safer way of packing I should be pleased.—DRIVEN BEES, *Wilts, July* 26.

REPLY.—1. For sending driven bees long distances nothing is better than a box, such as is used for "Hudson's soap powder" or for "washing powder." These are to be had from grocers at about a penny each. A box of this kind, with a hole 6 in. by 3 in. cut in each side, covered with perforated zinc, makes a safe box, large enough to hold 6 lb. of bees. Of course, the lid needs fastening on securely and a stout cord to carry by.

Bee Shows to Come.

August 9 at Madresfield.—Worcester B.K.A Show of hives and honey in connection with the Madresfield Agricultural Show.

August 16, at Abergwili.—Honey Show in connection with the Horticultural Exhibition. Open class for single 1 lb. jar Prizes 10s., 7s. 6d., 5s., 2s. 6d. (no entry fee). Exhibits to reach the Secretary not later than August 14. Schedules from J. Jones, 3, Gifre-gardens, Abergwili, R.S.O.

August 16, at Goole.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 11.**

August 18 at Selly Oak, near Birmingham.—Selly Oak and District Horticultural Association. Four classes for Comb-Honey in 1-lb. sections, Shallow-frames, Standard ditto, and Non-Sectional Supers. Lectures in the Bee Tent of the Worcester C.C. by the Rev. E. Davenport.

August 25, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and for appliances and wax, also for single jar and section, with free entry. Twenty other classes, for Scotland only. Liberal prizes. Schedules from Jas. Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 15.**

August 29, in St. John's Schoolroom, Blackpool. Annual Show of the Blackpool and Fylde Horticultural Society. Exhibition of honey under the auspices of the Lancs. B.K.A. Open classes for twelve 1-lb. sections and twelve 1-lb. jars extracted honey, with prizes of 20s., 10s., and 5s. each, also for single 1-lb. jar (no entry fee). Schedules from R. E. Stirzaker, Sec., Reddar-lane, South Shore, Blackpool. **Entries close August 20.**

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey.

August 30, at Montgomery.—Montgomery and District Flower Show. Two open classes, for six 1-lb. sections, and six 1-lb. jars extracted honey. Prizes 10s., 5s., 2s. 6d. in each class (entrance fee, 1s. each). Schedules from Mr. Bright, Hon. Sec., Montgomery. **Entries close August 23.**

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes." Liberal prizes and medals. Twenty classes in all. Schedules from James Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** Schedules now ready. (See advertisement on p. vii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. Honey Trophy class. Open to all Bee-keepers. Schedules now ready. (See advertisement on page ii.) Entries close September 8.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. C. (Bletchley).—*Queenless Bees.*—A colony now queenless and weak after being badly attacked by wax-moth for some months is hardly worth troubling about, so far as regards any attempt to save the bees by trying to work them up into a stock for wintering. The fact of their refusing to raise queen-cells from brood given them shows that they have been queenless for some time, and in consequence will be all old bees and unfit for wintering.

J. M. Lolputt (Surrey). — *Requeening in August.* — Seeing that the comb contains nothing worse than fresh-gathered pollen, the stock may be worth requeening if as many as five seams of bees remain; but you should procure a fertile queen at once and not trust to the bees raising one from eggs given in August.

H. C. H. M. (Worcestershire). — *Honey Samples.*—The sample is only medium in quality, being dark in colour and a little "rank" in flavour. It would sell best after granulating.

Philomel (Cambs.).—Sample of this year's honey is fair in quality but not high class. We should not advise mixing honey of 1899 with that of this year.

Shallow-frame (Cambs).—*Grading Honey.*—Both samples are good in colour, but there is quite an appreciable difference in quality, and while No. 1 may fairly be called first-class, No. 2 does not quite reach that standard. No. 1 is also, in our opinion, good enough for the show-bench anywhere, but No. 2 lacks flavour for winning in a strong competition.

Suspected Combs.

J. Clogger.—1. There is foul brood of old standing in both pieces of comb, and after burning the frames and combs the hives will need thorough disinfection before being used again. It is always dangerous to buy combed hives in which bees have died. 2. There is a virulent form of foul brood, in which the odour of combs containing dead brood is very offensive, but the form in which almost no odour is given out is, none the less, *bacillus alver*, or foul brood. 3. The larva dies soon after being attacked with the disease.

A Young Bee-Keeper (Anfield Plain).—There is unmistakable foul brood in a few cells of comb sent. It is not at all uncommon for the bulk of the brood to hatch out, while disease is found in the few remaining ones; and this fact goes to prove the value of preventives in checking development of the bacilli. The hive being still strong in bees proves the inherent vitality of the colony and its ability to resist disease.

D. Bouch (Carlisle).—1. Foul brood is plainly developing in comb sent, but whether the disease is of recent origin or not we cannot say, the sample comb being only built this year. 2. Papers relating to examination for experts' certificates, together with rules, &c., can only be had from the Secretary of the B.B.K.A., Mr. E. H. Young, 12, Hanover-square, London.

Kenneth McLeod (N.B.).—Comb is badly affected with foul brood.

*** *Owing to Bank Holiday many Letters are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, about 5 cwt. of HONEY. R. Whiting, Manea, March. A 73

SPLENDID SECTION HONEY FOR SALE, 8s. per dozen. Avery, Ripley, Surrey. A 74

OVERSTOCKED. Good Strong STOCKS on 10 frames, 17s. 6d. each. Avery, Ripley, Surrey. A 75

EXPERT (second class) is OPEN for AUTUMN TOUR. Cyclist. H. E., *B. B. J.* Office. A 65

STRONG STOCKS of BEES FOR SALE on Standard frames. Fred. Pepper, Manea, Cambs. A 64

TWO CARNIOLAN (1900) LAYING QUEENS, in cages, 3s. 6d. each. Edwin Glossop, Ambergate. A 78

RIPENER WANTED. Must be clean, strong, and hold 1 cwt. Clay, Albert-road, Wellington, Salop. A 77

10 DOZEN good SANFOIN and CLOVER SECTIONS, 7s. 6d. per dozen. Packages free. R. Brown, Flora Apiary, Somersham, Hunts. A 71

HONEY (Extracted) 50s. per cwt. on rail at Manea Station. Sample free. Empties returnable. Fred. Pepper, Manea, Cambs. A 63

QUEENS (Natives, Hybrids) from 3s. 9d., Virgins, 2s. 3d. Circular free. "Beecroft," Ashford, Staines. A 66

APPRENTICE WANTED to the Cabinetmaking and General Furnishing. Bees kept. Bagley, Brightlingsea. A 67

FOR SALE, Two STOCKS of BEES in Meadow's hives. What offers? Owner gone abroad. Cripwell, Wesley-street, Ilkeston.

A FEW cwts. of First Prize HONEY FOR SALE, 6½d. lb., samples 3d.—Ford, County Apiary, Burwell, Cambs.

OFFERS WANTED for 250 well-filled 1 lb. SECTIONS in metal cases or without; 200 1-lb. Screw-Top Bottles extracted; also 20 lbs. of Beeswax. Hedges Bros. Bishop's Waltham, Hants.

FINE tested 1900 FERTILE QUEENS, 3s. 6d. each. Post free. Driven Bees, 1s. 6d. per lb. for 5-lb. lots or over, queen included. Packages to be returned. All guaranteed healthy and safe arrival. Whiting, Valley Apiaries, Hundon, Clare, Suffolk. A 39

DRIVEN BEES.—I shall commence early in August. 3s. 6d. per stock, with queens. Boxes returnable. G. W. R., Hungerford Station. Orders in rotation. Pullen, Ramsbury, Hungerford. A 27

Editorial, Notices, &c.

"BEE SHOWS TO COME."

The rapidity with which the list of "Shows to Come," announced weekly in our columns, is now diminishing renders the occasion opportune for drawing attention to some important exhibitions still to be held, and for which the time for closing entries is near at hand. Chief among these, so far as regards "closing" time, are the two exhibitions at the Agricultural Hall, on September 8 to 15, and from September 21 to 29 respectively. The first—which we will call "The Confectioners'"—closes its entries on Tuesday next, the 21st inst.; and the second show ("The Grocers'") closes its list on September 8. Then comes "The Dairy Show"—held, as usual, in the same hall—in the following month of October.

These form a trio of "events" which may truly be said—without detracting from other shows—to have a more important bearing on the general well-being of our industry than ordinary exhibitions of bee-produce, by reason not only of the liberal prizes offered, but the exceptional facilities afforded for selling honey both in bulk and retail. We have already alluded to this side of the question, from the "business" point of view, in our issue of June 7 last, and in again mentioning the matter we confess to some fear that the entries will suffer, and the competitions be less keen in consequence, than if the honey season had been better than it has hitherto proved. But one would think the very fact just stated should induce those who have been fortunate enough to secure good samples of the current year's produce to make an entry, seeing that the chance of winning is rendered less difficult than in a good season.

Apart from this, however, it is well that our readers should be again reminded that in the two previous exhibitions of '98 and '99 (held under the same management) since the introduction of honey classes, the competition was restricted to "master grocers only;" this year, however, the honey trophy class is open to all bee-keepers in the United Kingdom. Not only so, but in the first show (the "Confectioners'") the whole of the honey classes are open to all. Moreover, the unusual advantage is offered to exhibitors in the trophy class at the first show of entering for the second (or "Grocers'") exhibition, with the winners at the earlier one debarred from competing against them. The benefit to exhibitors of this feature is so obvious, that we need not dwell further upon it, except to mention that all exhibits competing may remain in the building (if the double entry be made) until the close.

We add a word to say that as this department is in the hands of Mr. W. Herrod, exhibitors may, by arrangement, have their honey staged and safely repacked for return, if desired.

SHOWS AND STORMS.

Bee and Honey Shows held in conjunction with the more important exhibitions of Agricultural and Horticultural Societies, during the past fortnight, have suffered in a degree happily unfrequent even in this country, with its fickle and variable climate. Accounts have reached us of tents blown down and showgrounds strewed with wreckage owing to the recent storms of wind and rain. The climax of adversity would seem to have been reached at the important show of the Birkenhead and Wirral Agricultural Society held on August 3, 4, and 5, at Birkenhead, where the opening day is thus forcibly described in the local press:—

"The weather of yesterday one scarcely cares to describe. Rain fell all morning, at times a wearisome Scotch mist with interludes of what is known colloquially as 'cats and dogs.' During luncheon the downpour was torrential, and in addition vivid lightning flashed frequently and the thunder rolled without cessation. Then came a full hurricane. First of all the canvas covering the sheep was torn in shreds, and the animals had to be removed; the bee-tent was split up and its contents almost ruined; bang went the covering over the butter, cheese, and eggs; with a mighty report the best part of the roofing above the working machinery and implements went by the board, and later the roofs meant for the protection of cattle dogs, horses, pigeons, and poultry succumbed to the savage onslaught. The ground became almost a quagmire, the whole programme for the time being was abandoned, and the scene as a whole was one of utter desolation and ruin. The receipts for the day fell short of £100, but still the exhibition will go on to-day (Saturday), and, given a change in the climatic conditions, must attract a huge attendance."

After the above, our personal experience at Beddington Park, Surrey, on the 6th (Bank Holiday), was comparatively tame, notwithstanding the fact that a large marquee—containing a fine floral and horticultural display—had its main support or stay-pole broken by the force of the storm, and after the roof-canvas was rent by the wind, there was barely time to get the exhibits removed on to the wet grass outside before the whole structure was allowed to fall down in a heap. Fortunately, the bee-tent was kept intact by the use of extra stays and guy-ropes, for if that had been blown down the destruction in shape of bees and honey would have been very serious. As it was, the whole exhibition was in a great measure spoiled by the heavy and continuous rain during nearly the whole afternoon. No fewer than six honey shows advertised in our pages were held on Bank Holiday, and it is to be feared that the result in loss of gate-money will seriously affect the finances of the societies concerned. Altogether, the national festival of 1900 known as Bank Holiday has been not inaptly described by a London daily as "Black Monday," for the title was well earned.

LIABILITY OF BEE-KEEPERS.

We have received from correspondents located in various parts of the country numerous press-cuttings having reference to a "Bee Case" in which our readers naturally take a good deal of interest. The several accounts vary somewhat in regard to the details given, and—in order to be as accurate as possible—we print one from the *Times* of August 4 as follows :—

"At Basingstoke County Court, yesterday, Judge Gye dealt with a case affecting the liability of bee-keepers. John Butter, a wood dealer, sued the village postmaster, Mr. Longley, for the recovery of part of the value of an old mare which the defendant's bees stung to death, also 10s. on account of pain from bee-stings suffered by plaintiff, 10s. for loss of use of part of a field adjoining the postmaster's garden, where the plaintiff's labourers could not work owing to the bees, and 20s. for extra labour through having to make a hayrick in another position. It was suggested on the defendant's behalf that some other person's bees were at fault, but the plaintiff and his witnesses established to his Honour's satisfaction the fact that the bees came from the defendant's hives. Judge Gye, in giving judgment for the amount claimed, said that a bee-keeper kept bees at his own risk, and if they did damage he was liable."

The comments on the above case vary as much as do the details, but in many instances the Press view hardly favours the bee-keeper. It was, therefore, with considerable satisfaction that we read the following editorial in the evening *Standard* of the 7th inst., showing as it does, on the part of one of the most influential papers in the kingdom, a fair and unbiassed estimate of the facts as presented. The *Standard* says :—

"Somewhere in the neighbourhood of Basingstoke a wood dealer occupies a field adjoining the garden of the local postmaster, who keeps bees. Part of it he mows, and part is grazed by an 'old mare' —that is to say, he designed to mow it, and he turned out his old mare to graze, but the ferocity of the postmaster's bees ruined either project. When the labourers entered with their scythes the flying squadrons of the enemy assailed them in such force that they hastily withdrew, and the poor mare, unable to withdraw, perished in the field. So the wood dealer appealed to Basingstoke County Court, claiming damages, first, for his murdered steed ; second, for the loss of hay ; third, for extra labour, inasmuch as he was obliged to move his rick ; fourth, for his personal sufferings. And the Judge decided in his favour for the whole amount, saying that 'a person keeps bees at his own risk, and if they do damage he is liable.' We suspect that the worthy Judge has not heard the last of this case. Bee-keepers are patient and amiable folk, but, like their interesting charges, they can protect themselves. We hear nothing of the defendant's arguments, but it is not to be believed that he had none. Possibly he relied on common sense and common experience. Many thousands of people have fields adjoining a colony of bees ; what proportion of them are habitually chevied about, assailed, and driven off their property by the insects? Not a few have horses, young and old, grazing on the land ; they have been attacked sometimes, no doubt, but how often without cause? Perhaps the 'village postmaster' failed to show that his bees had been provoked. But no man who calls himself an 'apiarian' will admit that they could be guilty of wanton assault."

We are endeavouring to obtain information with regard to the "other side of the case" which has so important a bearing upon "equity," whatever may be the "law" thereon, and hope to refer to the matter again.

WIRRAL AND BIRKENHEAD AGRICULTURAL SOCIETY.

SHOW AT BIDSTON.

The fifty-eighth annual show of this Society was opened on August 3, and lasted over the Bank Holiday (Sunday intervening). Being the largest show in the county of Chester, it is always taken advantage of by the Cheshire Bee-Keepers' Association for one of their most important annual exhibitions of honey and bee appliances. The Society had set apart, in an excellent situation, a roomy four-poled tent for the exhibits, and by 10 a.m. a large and interesting collection had been staged. There was not quite so much honey as last year, owing to the late season and the poverty of the honey flow in the county, but the quality of the extracted honey was decidedly superior. Comb honey, with a few exceptions, was not strong. Two very nice samples, entered in different classes by the same exhibitor, had to be disqualified on account of excess of lace edging. Excellent collections of hives and bee appliances, not for competition, were staged by George Rose and J. Smith. The judge was the Rev. J. F. Buckler, rector of Bidston, who was just completing his labours, and had scarcely formed a satisfactory judgment upon the single 1-lb. jars, when a severe thunderstorm, which had been raging for over an hour, changed suddenly to a terrific hurricane from the north-west.

All hands tried to save the honey by laying it upon the grass under the staging, but in the midst of the work the tent-poles snapped like twigs, and the tent came down, burying the workers in its folds. As the hurricane continued all the rest of the day, nothing more could be done, except to crawl from underneath the wet canvas. On the morrow what a wreck met the eye ! Every tent on the ground, save one, had been levelled. The bee-tent lay as it had fallen. Luckily, most of the honey had escaped much damage, except the second-prize sections. It was useless to attempt any

further exhibition, especially as the bees from the examination and lecturer's hives became troublesome. So the honey was packed up as speedily as possible and consigned to its owners. A more disastrous show for every one concerned has never taken place. Thunder, lightning, torrential rain, and howling gales marked all the time the show was open, and we understand there has been a loss to the Society of about £2,000 on the show.

AWARDS.

Complete Hive for General Use. 1st, 2nd, 3rd, and v.h.c., George Rose.

Twelve 1-*lb. Jars Extracted Honey* (*open*).—1st, W. Woodley; 2nd, J. J. Forster; 3rd, H. Pears; v.h.c., F. Hewitt and H. F. Beale; h.c., Robert Gray.

Twelve 1-*lb. Sections.*—1st, W. Woodley; 2nd, Mrs. R. W. Phipson; 3rd, F. Pearman; h.c., Thomas Henshaw.

Beeswax.—1st, John Berry; 2nd, H. F. Beale; 3rd, Mrs. E. Berry.

Twelve 1-*lb. Jars Extracted Honey* (*C.B.K.A. only*).—1st, H. Edwards; 2nd, F. Hewitt; 3rd, Robert Gray; v.h.c., J. R. Knowles, Rev. E. A. Hutton, Rev. T. J. Evans; h.c., Rev. E. Charley, Walter Huxley.

Six 1-*lb. Sections* (*C.B.K.A. only*).—1st, Rev. E. Charley; 3rd, Thomas Henshaw.

Six 1-*lb. Jars Extracted Honey* (*C.B.K.A.*).—1st, H. Edwards; 2nd, A. Thomas; 3rd, F. Hewitt; v.h.c., Rev. T. J. Evans, Rev. E. A. Hutton, Robert Gray; h.c., Rev. E. Charley, Walter Huxley.

1-*lb. Jar* 1900 *Extracted Honey* (*open*).—1st, W. Woodley; 2nd, F. Hewitt; 3rd, J. J. Forster.

There were nine candidates for examination for Third-class Expert Certificates, and in spite of the unfavourable weather five were duly examined both in the manipulations and the oral examinations.—(*Communicated.*)

SURREY BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW.

This show was held in Beddington Park, near Croydon, on Bank Holiday, August 6, in conjunction with the Exhibition of the Beddington, Carshalton, and Wallington Horticultural Society. The untiring exertions and organising skill of the Hon. Secretary, Mr. F. B. White, were rewarded by an even larger number of exhibits than last year, the total entries in the twenty classes numbering 274. An interesting and instructive feature of the show was a large collection of photographs of interest to bee-keepers which had been lent by members and their friends. The exhibits were, on the whole, of good quality, and some of the classes, such as that for granulated honey, were much superior to those staged last year. Cakes and confectionery made with honey were well represented, and as it is in this direction that the French and Germans find an outlet for large quantities of honey, it is satisfactory to find that our own bee-keepers are devoting more attention to the subject. Mead and honey-vinegar of excellent quality were shown and rewarded with a prize, and the show of wax was above the average as regards quality. Some of the shallow-frames shown were exceptional as regards weight, one 7-in. shallow-frame weighing 5¼ lb. In the class for dark-coloured honey much heather honey was staged which might with advantage have been exhibited in the heather honey class. The observatory-hives, as is usually the case, attracted much attention, and contributed not a little to the instruction and entertainment of the numerous visitors to the tent.

Unfortunately, the weather was very boisterous. The almost incessant rain and wind prevented demonstrations in the bee-tent, and one of the adjoining tents, containing flower exhibits, was wrecked by the gale.

The judges, Messrs. W. Broughton Carr and Walter F. Reid, awarded the following prizes:—

Twelve 1-*lb. Sections.*—1st, J. O. Quinton, Redhill; 2nd, E. J. Pape, Capel; 3rd, H. W. Ketcher, Cranleigh; c., Sir W. D. Pearson, Bart., M.P., Paddockhurst.

Six 1-*lb. Sections.*—1st, J. O. Quinton; 2nd, H. W. Ketcher; 3rd, A. Watkin, New Malden; c., W. W. Drewitt, Normandy, Guildford.

Six 1-*lb. Sections.*—1st, E. J. Pape; 2nd, W. W. Drewitt; 3rd, A. Greenslade, Sutton; h.c., James Earl, Three Bridges; and H. E. Gates, Sutton; c., Watts Silvester, Surbiton; H. Coomber, Purley; and H. J. Jeffrey, Capel.

Six 1-*lb. Sections* (*Heather*).—1st, E. P. Betts, Camberley; 2nd, W. A. Woods, Normandy Park; 3rd, J. W. Lewis, Farnham; c., W. E. Hackett, Cobham.

Three Shallow-Frames.—1st, A. Watkin; 2nd, E. Bontoft, Caterham Valley; 3rd, T. Earl, Crawley; c., F. Dabbs, Tooting.

One Shallow Frame.—1st, James Earl; 2nd, A. Watkin; 3rd, H. Sayers, jun., Chessington; v.h.c., Thos. Earl; h.c., F. Dabbs.

Twelve 1-*lb. Jars Light Honey.*—1st, G. E. Langrish, Frensham; 2nd, J. W. Lewis; 3rd, F. B. White, Red Hill; c., A. Hamshar, Chilworth.

Six 1-*lb. Jars Light Honey.*—1st, F. Silvester, Capel; 2nd, W. Hinson, Wallington; 3rd, W. W. Drewitt; v.h.c., J. W. Lewis; h.c., J. O. Quinton; Miss Stone, Ewell; and H. Dann, Wallington; c., C. H. Choules, Sutton.

Six 1-*lb. Jars Heather Honey.*—1st, E. P. Betts; 2nd, W. E. Hackett.

Six 1-*lb. Jars Dark Honey.*—1st, F. B. White; 2nd and 3rd, W. Hinson.

Six 1-*lb. Jars Granulated Honey.*—1st and 2nd, J. W. Lewis; 3rd, F. B. White; h.c., F. B. White; c., Miss Stone.

Honey Trophy (two entries only).—1st, A. Watkin; 2nd, R. Peters, Banstead.

Beeswax.—1st, W. W. Drewitt; 2nd, G. E.

Langrish ; h.c., H. W. Ketcher ; c., F. B. White and H. Coomber, Purley.

Articles of Food in which Honey is Used.—1st, F. B. White ; 2nd, A. Seth-Smith, Cobham ; c., W. E. Hackett.

Single 1-lb. Section.—1st, H. J. Jeffrey ; 2nd, H. Seamark, Willingham, Cambs. ; 3rd, H. F. Beale, Andover ; c., G. A. Page, Reigate, and F. Silvester.

Single 1-lb. Jar Extracted Honey.—1st, H. F. Beale ; 2nd, C. T. Edens, Chadlington, Oxon. ; 3rd, T. Blake, Stockbridge, Hants ; v.h.c., J. O. Quinton and H. Seamark ; h.c., Mrs. Cooke, Navenby, Lincoln ; C. F. Sandle, Tunstead, Norfolk.

Observatory Hive with Bees.—1st, Jas. Lee & Son, London ; 2nd, H. Seamark ; 3rd, Lanaway & Son, Red Hill.

Collection of Appliances.—1st, Jas. Lee & Son ; 2nd, J. S. Greenhill, Wimbledon ; 3rd, Lanaway & Son.

Complete Frame Hive.—1st, Jas. Lee & Son ; 2nd, Lanaway & Son ; 3rd, J. S. Greenhill.

Outfit for a Beginner in Bee-keeping (price not exceeding 30s.).—1st, J. S. Greenhill ; 2nd, Lanaway & Son ; 3rd, Jas. Lee & Son.—(*Communicated.*)

Want of space compels us to hold over reports of several shows till next week.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

CYPRIAN BEES.

MY FIRST YEAR'S EXPERIENCE.

[4061.] I am giving these bees a trial, but have been very unfortunate in receiving dead queens from Cyprus. The first two arrived dead owing to having been posted in the "registered letter" bag. Mr. Dervishian, by whom they were sent, said the queens must have been dead before leaving Cyprus. However, he has always promptly replaced dead ones on my returning the travelling boxes. Regarding the two stocks of Cyprians I now have one queen was introduced in August last year, the other in September ; neither, of course, did much breeding, but both stocks wintered all right. I sent one of the queens to a well-known breeder in May ; the other is doing well. She was late in getting to work, but not later than some of my ligurians, nor later than my black stocks ; in fact, the most laggard lot I had was one of the latter ; they now have given them an Italian queen. The spring and early summer were most unfavourable, some days chilled, and dead bees with loads of pollen were lying all about the garden, a pitiable spectacle, the little labourers tempted out by a bright sun, stricken down by a pitiless north-east wind, to return home no more. I have in my apiary twenty-one stocks in all (five of them being new colonies of this year), and of the whole number only nine have yielded a surplus ; but the two colonies of Cyprians are amongst the nine, one of them having well-filled eight shallow frames with broad "W.B.C." ends. The other stock with young queen is now full of bees, but much time was lost by removing the original queen in May as already stated. I never saw a stock increase in numbers more rapidly. As to temper in the Cyprians I have had no trouble at all, having never used any subjugator when handling ; smoke I was afraid to try, as it is said to make them furious, yet although working without gloves I have never had a sting. All I did was to manipulate very quietly and deliberately ; I examined the whole ten frames when the hive was crowded with bees on July 13, and after destroying some royal cells just started put on the super, which they immediately entered. I judge the young queen raised in this hive has mated with a Carniolan drone, and so far her progeny are also very quiet.

I have been again unfortunate about queens this season. One is still due, two have arrived dead, and a third was duly mailed to me, but all I received was one side of the box on which was my address and stamped on it : "Found in Inland * * without contents." Whether the box had been smashed in transit, or curiosity had caused some official to open it, I cannot say ; if the latter, I hope he was well stung ! I propose to give these Cyprian bees a further trial next season ; I believe they would produce a splendid bee crossed with the Carniolan drone. — ALPHA, *Driffield, Yorks, August* 9.

(*Correspondence continued on page* 326.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In Mr. Briggs we have another "born" bee-keeper, who, after forty-five years, finds his interest in the craft undiminished. Nor can we have too much evidence, such as our friend's useful "notes" afford, with regard to the profit and pleasure derived from the bees, when he writes :—

"My experience with bees began more than forty years ago ; when a little boy about five years of age. I was at that time playing about near my father's bees, when one stung me, with the result that one eye was 'closed' for about three days. I do not know whether that was the cause of my falling in love with bees, but I have been much interested in the busy workers from boyhood. My father kept a good many hives (or rather they kept themselves), for it was in the days before bar-frames

were much known. As regards myself, I cannot lay claim to anything original in my bee management. I gained my information from the 'Guide Book,' BEE JOURNAL, and *Bee-Keepers' Record*, and a few other books. Believing in the sound teaching of the 'Guide Book,' I adhere to its teaching, and leave all experimental work to wiser heads.

"I keep bees for pleasure, but work on strictly business lines, buying what I want as cheaply as I can and making as good a price as I possibly can of my produce, and I am pleased to say each year I find a fairly good balance on the right side. Nor can I say that bee-keeping becomes any less a pleasure for that. I make 1s. per lb. of the best comb honey, and for such sections as are not properly filled I can, and above all is a good Chancellor of the Exchequer. I should like to increase my number of stocks, but being cramped for room I cannot make any extension at present. We have a public road just in front of the house, and a great many people passing, so that I have to be careful not to cause annoyance either to passers-by or to my neighbours, and it is very satisfactory to be able to say that I have never received a complaint from any one. Not only so, but although our children and those of people as well as visitors calling, have to pass within six feet of the bees, they never get stung. I never take any honey from brood chambers beyond what I am obliged to appropriate when removing old combs that need renewing. I take care that each stock has

MR. WM. BRIGGS'S APIARY, ABINGER HAMMER, DORKING, SURREY.

11d. or 10d., according to quality. I also realise 10d. to 1s. per lb. for extracted honey. We sell nearly all our honey retail at the door, without any trouble of advertising beyond putting up a card. I am sorry to say that nearly every year a slight touch of foul brood appears in my apiary, but by keeping a good look-out I am fortunate enough to detect it before it becomes very bad. (How about the proposed foul-brood bill? Is it dead?)

"In our house we are all bee enthusiasts, from the oldest to the youngest. My wife, however, does most of the bee work, hives nearly all the swarms, jars off the honey, and does all the cleaning and preparing for sale. She can hive a swarm or spot a queen better than plenty of stores left in the autumn to carry the bees over winter, good ventilation, and plenty of warm coverings.

"With regard to manipulating, I believe in interfering as little as possible with the bees in spring. By this it is not meant that nothing should be done, but only what is strictly necessary. My 'take,' so far as serving some food purpose, of honey this year will be only about half the amount of surplus secured in '99, but the honey is very good in quality. We consume a good deal of honey ourselves, believing that good honey is good food, and if that fact was more widely known and more honey eaten, I believe that people would be all the better for it."

CORRESPONDENCE.

(*Continued from page* 324.)

NOTES BY THE WAY.

[4062.] The honey harvest is practically over in the south (except in heather districts), and bee-keepers will do well to secure the crop in the best condition by promptly removing all super-honey from the hives. By so doing the bees will be prevented from using the honey in super as food, as they are apt to do during unsettled weather such as prevails at present; where sections show here and there an empty cell it detracts from their appearance and in a lesser degree from their market value. In removing honey do not forget to use a well-made super-clearer. Early morning and late in the evening are the best times for taking off honey, because neighbours are not then annoyed by any upset among the bees, or by the "green-eyed monster envy," at seeing you carrying indoors heavy supers in your arms. Our enemies in the past have been both visible and invisible, such as the "F.B." bacilli, wax moths, &c., but now we bee-keepers have another formidable and tangible foe to tackle, one who can strike hard and in a vulnerable point; I refer to the neighbour jealous of our success, or who may owe us a grudge either in fact or fancy, as witness the recent action in a County Court for part value of an old horse stung to death. [See page 322.—EDS.] Will some of our friends, who are learned in the law, kindly give their opinion on this case? Bee-keepers ought to have a union of defence and secure the best legal advice. The large number of bee-keepers who are interested in cases such as the above should combine, and by a small annual subscription form a "Legal Defence Fund." They would thus be enabled to retain the best legal advice, and secure the services of an eminent counsel when needed.

Re Hives with Sides Higher than the Top of Frames.—As a honey producer I find no more difficulty in removing racks of sections from those hives with high sides than where the top is level or flush with the top of frames. In both cases the supers are glued down with propolis and have to be prized up, but when we come to comfort in working the level-top is, in my opinion, not in it with the hive having the higher sides, especially if the wind is blowing. As the super is being removed to the "clearer" the carbolised cloth drops on top of frames, rarely a bee escaping; but without the high sides, if the slightest puff of wind is moving, the cloth is likely to fail in covering the tops of frames, and we get an exodus of angry bees ready for a fight. This was my experience recently, when I got the worst stinging I have had this year in removing a super from a Sandringham hive. I had just removed several racks from combination hives without veil or smoker, simply the carbolised cloth, but in the above case the gust of wind carried the cloth into the hedge, a friendly briar seized it with a grip, and before it could be replaced the bees were busy as spearmen.

I do not say that we have not advanced during the last twenty years, but in my opinion we have not beaten the "combination hive" for all-round work. I have several hives of different makes and types; among them the old Woodbury, the "Sandringham," and some ten-frame hives, and all of these have sides level with top of frames, but for the year's work give me the old reliable "combination." I may add *all* my frames are Standard size, though I believe that the B.B.K.A. would have conferred a still greater benefit on bee-keepers if they had adopted a rather deeper frame than the present "Standard," as was advised by the late Mr. C. N. Abbott.* The inventions in bee-appliances during the past quarter of a century have been manifold, each, in the view of the inventor, forming a stepping-stone to further progress, and in some instances the inventor was going to revolutionise the system of honey production; these new ideas have their little day, and practical bee-keepers take hold and utilise the useful and beneficial, while the other is left stranded and soon forgotten. With the present high state of perfection in appliances I think we may "bide a wee," and devote our energies to the improvement of our stock, thus helping to increase our output, but we must endeavour to improve our drones as well as our queens, seeing that in all other stock-breeding the sire is more carefully selected than the dam.—W. WOODLEY, *Beedon, Newbury.*

DAMAGE BY BEES.

INSURANCE FUND FOR BEE-KEEPERS.

[4063.] I am sending you by this post a copy of *Hants and Berks Gazette* containing a report of a county-court case of horse being stung to death by bees, and I should like to know what you think of same. [See page 322.—EDS.] If the Judge referred to is right, I think it about time that bee-keepers should combine together and form some sort of insurance fund (I for one would be willing to help) that would apply to such cases as this, for should it happen to a poor man with a few stocks, it would quite ruin him. According to the verdict of Judge Gye, the bee-keeper is liable to damages for every little mishap, and unless such cases are well fought out the wrong man might easily be made to suffer. For instance, a horse might be stung, and if so, would the nearest bee-keeper be liable when it might be a vagrant swarm from some distance away that caused the damage? There is, of course, the horse-owner's side of the question to look at, but it seems very foolish to tether a horse right in the line of flight of several stocks of bees, and only a few yards away.

* It should not be forgotten that the late Mr. C. N. Abbott was one of the Committee appointed to consider the question of a Standard frame, and agreed as to the present "Standard."—EDS.]

Such cases as this would do much to deter people from starting to keep bees, which would be a great pity, especially when one considers how easily the danger could have been avoided. By placing the hives close under the hedge there would have been no danger whatever of any one being stung in the meadow; and a row of runner-beans planted a little distance in front of the hives for the bees to fly over would have made all safe in that direction. If a few precautions like this are taken bees can be kept in very populated places without any danger.—H. ROWELL, *Hook, Hants.*

MR. ROGERS' HOUSE APIARY.

[4064.] While thanking Mr. Rogers for describing his excellent house apiary in your last issue, I shall be grateful if he will explain a little more fully to what extent "the sides of the room where the hives stand are made of perforated zinc with proper arrangements to allow the bees to escape." The illustration shows something like small windows between the two rows of hives.

Again, I should be glad to learn how Mr. Rogers managed to stand securely while dealing with the top row of hives.

Lastly, does he really find it practically advantageous to requeen all his hives every season?—S. D. E., *South Devon, August* 10.

LATE-FLOWERING LIME TREE.

TILIA PETIOLARIS.

[4065.] Last year you were kind enough to find space in your columns for some correspondence upon the late-flowering lime tree, which aroused some interest among bee-keepers. One of the questions then raised, and which still awaits a definite answer, was as to the quality of the honey yielded by the *Tilia petiolaris*. Perhaps some of your readers may be in a position to procure honey from this source, and by sending a sample to you settle the question finally. In Surrey the *Tilia petiolaris* is now in full bloom, having commenced flowering at least a fortnight after the ordinary lime blossoms ceased to yield honey. There seem to be at least two varieties of late-flowering limes; one of the *Tilia petiolaris*, which may be recognised by the white under surface of the leaves and the large blossom; the other is a small-leaved kind which may be a variety of the common lime. Observations on either kind would be welcomed by bee-keepers, especially by those who live in the neighbourhood of towns and cannot find the wide area of bee-pasturage accessible to their more fortunate brethren in the country. There appears to be no difficulty in procuring the *Tilia petiolaris*. I planted a number of trees last autumn and some of them are now in bloom.—WALTER F. REID, *Fieldside, Addlestone, Surrey, August* 9.

REVIEWS OF FOREIGN BEE PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

L'Apiculture (*France*).—Honey is often mentioned in the Bible. Palestine itself is called the land flowing with milk and honey. Some of the finest honey which reaches this country is gathered in the neighbourhood of Bethlehem and Hebron. The uncultivated districts produce thyme, many of the labiates and their kind sown among stones and rocks.

Four thousand years ago Jacob dwelt among these scenes, when famine compelled him to send his sons to Egypt to buy corn. On their second journey thither they took of the best products of the land (of which honey was one) as a present to Joseph. Two hundred years later, when the Israelites returning from Egypt were encamped on the border of the land, the spies sent to discover its condition made report, "Truly it is a land flowing with milk and honey." The ancient inhabitants of the country were very fond of honey, as are those of the present day. They offered it as a present to the highest personages, and especially mixed with butter it was a favourite dish. Thus we read of King David, when flying before Absalom with a few faithful friends, on reaching the other side of Jordan was refreshed with butter and honey among other things.

The wife of Jeraboam, when she went to ask the prophet Abia about her young son's illness, carried, among other presents, a pot of honey.

Solomon advises his son to "eat honey, for it is good." The prophet Isaiah, speaking of the child which should be born of a virgin, said, "Butter and honey shall he eat." John, in the desert of the Jordan, had locusts and honey as his food.

Josephus mentions the plains of Jordan as rich in honey-bearing plants. The honey is collected by swarms of wild bees. Moses says, in recounting the goodness of God to His people, "He made them to suck honey out of the rock"—Deuteronomy xxxii., 12. David, accustomed to a nomad life, often had recourse to honey as nourishment; he spoke by experience—Psalm lxxxi., 16: "The Lord has satisfied," &c. Honey was exported from Tyre, and Ezekiel speaks of it as a principal merchandise of that city.

In ancient times good words and actions, &c., were compared to honey, and the Arab of the present day uses the same expressions as those of the Bible.

Rucher Belge (Belgium) contains a long article on the value of sugar and honey as food, and above all as strengthening the constitution. Honey passes into the capillaries, engendering warmth and stimulating muscular energy, acting on the respiratory organs and encouraging the action of the liver. After great fatigue honey will be found to restore most readily, the brain power being so easily assimilated.

In 1896, two Italian scientists, Mosso and Paoletti, made special experiments on the most favourable conditions for the assimilation of honey, and their researches proved that this took place most successfully when taken in quite small doses, between 5 and 60 grammes. If more than 60 grammes (equals $1\frac{1}{2}$ oz.) be taken, the muscular energy diminishes progressively, six or seven parts of water to one of honey giving the best results. Honey water is also recommended to jockeys, huntsmen and—cyclists, indeed to all who have to endure continued fatigue—as well as for hunters and sporting dogs. Honey should, therefore, no longer be considered a luxury, but an essential article of diet.

L'Apicoltore (Italy).—A curious case of loss of bees during the last winter is reported from Borgonova.

Symptoms of dysentery showed themselves as early as December, and notwithstanding all possible care nearly every one of them perished from January 15 to March 15. The bees were seen to take a cleansing flight, with the ground covered with snow and the thermometer below zero. An examination on February 15 found bees in normal condition, though weak in numbers. Of forty-one colonies the bee-keeper lost all but fifteen, and of these only five were worth anything. Other bee-keepers in the neighbourhood had also lost considerably, but not to such an extent.

I only refer to this case showing as it does the fate of a great many colonies from what we undoubtedly know as "spring dwindling," a disease which in former times worked such havoc in America, and which has also done a great deal of harm in Germany and elsewhere during the present spring, causing most destruction in May.

The remedy for "spring dwindling" is not very far to see. Making sure that no old bees but only young workers go into winter quarters will effectually put a stop to it. —R. H. H.

Queries and Replies.

[2476.] *Swarms and Surplus Honey.*—I bought a swarm in the beginning of July last, which was hived in a new frame-hive on four frames. After a fortnight I found the bees were doing so well that I put in the rest of the frames (the hive holds twelve); I also put on a rack of sections. 1. Was I wrong to expect the bees to store surplus honey this year? And would it have been better to think only of getting the brood-nest for next year? 2. I have not fed the bees at all yet, but during these last cold days I think they have wanted it. Where am I to place the feeder? Will the bees find it out if placed on top of the sections? 3. I found two queen-cells in course of formation when I last examined the hive; shall I be right to leave them on through the winter? I would rather have honey than swarms. I look for an answer in B.J. as soon as possible, as I feel I am not doing all I might for my bees.—HELEN GOLDSMID, *Brill, Bucks, August* 10.

REPLY.—1. It is an unusual thing for a swarm hived in July to store surplus honey the same season. It may be done in the north, or, where heather is within reach, but very rarely in your southern county. 2. Presupposing that the quilts which cover top-bars of frames have the proper feed-hole cut in centre of each, the feeder—after removal of sections, filling with syrup—is placed over the "feed-hole" referred to. (See chapter on "Feeders and Feeding" in "Guide Book.") 3. You will do well to examine the combs and find the queen, or see that there are eggs in the cells. The queen may have been damaged or killed in your frequent examinations.

[2477.] *Bees and Bean-Blossoms.*—Now that better forage is failing here bees are turning their attention a little to the scarlet-runner beans which are growing close to my hives. The several species of *Bombus* are the most attentive visitors, and, either on account of their superior strength or longer tongues, they occasionally go to the front of the flowers to reach the honey, a method of procedure which our honey-bee seems to disregard when dealing with beans. It may be a matter of common knowledge amongst experienced bee-folk, but until yesterday I was not aware that the blossoms of runner-bean are rifled in almost every case by means of a hole "chawed" through the under side of the calyx, and that tubular part of the corolla which lies beneath it. I say "chawed" advisedly, as the hole is evidently not an organic contrivance of the flower, being of various shapes and sizes, with rough edges, which soon show signs of having been pinched and torn. Moreover, the two under petals, or "platform" of the flower, seem frequently to be withered before having served their evident function of levers for working the kind of piston-and-cylinder fertilising apparatus peculiar to these "butterfly" flowers. This withering is apparently due to the base of each petal having been eaten through; which brings me at last to my questions as follows:—1. How is it that our beans are "setting" all right—enough of them at any rate—though the "chawed" calyx from which the little bean is generally hanging seems to show that some at any rate of our much-belauded fertilising agents did not play fair? Are any other kinds of flowers mutilated in like manner? 2. If the percentage of unfertilised flowers is increased by this "chawing" process, who is responsible for the damage, *Bombus* or *Apis mellifica*? Perhaps neither, for I confess I have never caught either in the act.—H. C. WALLIS, *Old Colwick, Notts.*

REPLY.—1. The "perforations" mentioned

are found in all bean-blossoms, notably in that of the field bean, of which the great majority of blooms will be found pierced at the base. It is generally understood that the *Bombus*, or humble bee, makes the perforations of which the hive bee avails itself in extracting the nectar otherwise out of reach. 2. In this case the *Bombus* decidedly.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of July, 1900, was £4,463.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Bee Shows to Come.

August 18 at Selly Oak, near Birmingham.—Selly Oak and District Horticultural Association. Four classes for Comb-Honey in 1-lb. sections, Shallow-frames, Standard ditto, and Non-Sectional Supers. Lectures in the Bee Tent of the Worcester C.C. by the Rev. E. Davenport.

August 25, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and for appliances and wax, also for single jar and section, with free entry. Twenty other classes, for Scotland only. Liberal prizes. Schedules from Jas. Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 15.**

August 29, in St. John's Schoolroom, Blackpool. Annual Show of the Blackpool and Fylde Horticultural Society. Exhibition of honey under the auspices of the Lancs. B.K.A. Open classes for twelve 1-lb. sections and twelve 1-lb. jars extracted honey, with prizes of 20s., 10s., and 5s. each, also for single 1-lb. jar (no entry fee). Schedules from R. E. Stirzaker, Sec., Reddar-lane, South Shore, Blackpool. **Entries close August 20.**

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey.

August 30, at Montgomery.—Montgomery and District Flower Show. Two open classes, for six 1-lb. sections, and six 1-lb. jars extracted honey. Prizes 10s., 5s., 2s. 6d. in each class (entrance fee, 1s. each). Schedules from Mr. Bright, Hon. Sec., Montgomery. **Entries close August 23.**

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes." Liberal prizes and medals. Twenty classes in all. Schedules from James Kerr, Hon. Sec., Milldamhead, Dumfries. **Entries close August 22.**

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes. **Open to all British Bee-keepers.** Schedules now ready. (See advertisement on p. viii.) **Entries close August 21.**

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page iii.) **Entries close September 8.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. W. (Coleford).—*Hybridising Stocks.*—1. The bees at close of present season will be first and second cross Carniolan-blacks. 2. Only an inspection will tell which stock is now breeding best, there being no rule to go by. 3. The skeps should be driven directly the season is over, if you wish to establish the driven lots before cold weather sets in.

E. GLOSSOP.—*Bee Forage.*—Both twigs of blossom belong to the various kinds of Tilia, or lime tree, and, though differing from the ordinary or common lime (*Tilia vulgaris*), will no doubt yield honey freely.

R. M. (Cowbridge).—*Bee Flora.*—See reply to E. Glossop.

"ST. FERGUS" (Aberdeenshire).—*Driven Bees by Parcels Post.*—We do not think it is "customary or safe" to send driven bees by "parcels post." Nor would there be any advantage in so sending, seeing that most railway companies have a very low rate for packages up to 12 lb.—a rate specially designed, as we understand, to meet the competition of "parcels post."

W. F. H. (Croydon).—*Dealing with Foul Brood.*—1. There is no need to use carbolic acid on floor-boards as a preventive if you have already got naphthaline in use. 2. The spores of bacillus *Alvei* do not "put in an appearance" until the bacilli have consumed all the nutrient matter contained in the larvæ, when the putrid substance dries up and only spores are left behind. 3. There should be no unsealed brood in a hive "fourteen days after swarming." Something must be wrong, and only an examination of the uncapped brood will enable any one to understand wherein the mischief lies.

BEGINNER (York).—*Transferring Bees.*—The few words of caution printed on page 141 of "Guide Book" is intended as a warning against the evil of which you complain, viz., risk of queen being left below the excluder to die when the bees and queen are driven from skep and "run in" to frame-hive at the entrance. On the other hand, by allowing the bees to transfer themselves all risk is avoided.

WHITFIELD (W. Hartlepool).—*Bee Books.*—The advertised pages of "Guide Book" (which you have) contains a list of all the

books published at this office. To these we might add the "A B C of Bee Culture," published by the A. I. Root Company, Medina, Ohio, U.S.A. This latter will be sent post free for 5s. 6d.

T. D. SINFIELD (Luton, Beds).—*Insect Nomenclature.—Wild Bees.*—The name of the wild bee sent is *Anthidium manicatum*. The specimen is a male. The female of this species is an interesting insect, and should be looked for on the same plant. She is rather smaller than the male, and carries her pollen-collecting brush on the under side of the abdomen, not on the posterior legs as in the honey and most species of wild bees. She may often be observed gathering down from the stems of various plants such as the woolly hedge-nettle (*Stachys sylvatica*), and also from the common yarrow (*Achillea millefolium*). This she uses for lining her nest, which is generally made in an old post or paling.—(F. W. L. S.)

DURHAM RANGER.—Will reply to yours next week.

Suspected Combs.

K. McL. (Dumbarton).—After full microscopical examination, we find comb to be very badly affected with foul brood, innumerable spores being found. The disease is evidently of old standing and of a bad type.

"CIDDER" (Worcester).—Comb is affected with foul brood not of old standing.

P. J. T. (Som.).—1. With so many as thirty hives affected we should have advised more drastic measures than painting the hives with either carbolic acid solution or phenyle, or even boiling, seeing that the spores of foul brood will stand an hour or two's boiling without destroying their vitality. We are glad to hear that your plan of making artificial swarms of the affected bees has been so far successful as to reduce the number of diseased hives so much, and have no doubt that with perseverance the evil will be overcome. A painter's spirit-lamp is the most effective implement to use, by scorching the hive insides with the flame. 2. On no account would we use the honey from diseased hives as bee food. It is good for household use, but for bee food use only good cane sugar.

DRONE-BREEDER.—There is no disease in comb, but the queen is evidently a drone-breeder.

"IVY" (Anereley).—Comb is affected with foul brood of old standing.

G. B. (Northants).—We note that in newly built-out comb sent nearly all the brood has hatched out, but in each of the three or four sealed cells left there are very pronounced signs of foul brood. It is most unfortunate when a bee-keeper possessing thirty colonies, with "no other bee-man in the village to lend a helping hand," finds himself stricken down with severe illness lasting over the past winter and spring. And when foul brood is brought near your apiary by a careless new-comer whose bees are diseased, with the result of its becoming infected, it would seem a case for bringing before the county B.K.A. Surely some pressure could be brought to bear upon the offender to prevent the spread of infection?

Honey Samples.

JAS. LEENEY (Stratford-on-Avon).—*For Showing.*—1. Sample is from mixed sources, good in colour and good enough for showing in a not too strong competition. 3. The material sent is simply animal "bladder" skin, which was largely used in former days for covering various preserves and essences. It is still used on some of the more expensive condiments.

W. P. S. (Chichester).—Honey is of good consistency and colour, but flavour is hardly up to show-bench standard, unless at a small show.

"MADGE" (Sheffield).—Honey is thin and poor in colour. Flavour also is not good. It is partly from privet-blossom. There is no means of improving the colour.

*** *Owing to pressure on our space we regret being compelled to hold over many Letters and Queries all of which will be replied to next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, a qualified EXPERT for a fortnight's tour in Lincs (bicycle). R. GODSON, Hon. Sec. Lincs B.K.A., Tothill, Alford.

SPLENDID SECTION HONEY, 8s. per dozen. Packed. PULLEN, Ramsbury, Hungerford. B 1

SHALLOW FRAMES of COMB, 1½ in. thick, just right for heather, 5d. each. JOHN WALTON, "Honey Cott," Weston, Leamington. A 97

HEALTHY DRIVEN BEES, with Queen, 1s. 3d. per lb. What offers for small lots with queen? E. GARNER, Broom, near Biggleswade, Beds. A 95

NEW SEASON'S HONEY, in ½ cwts., 6d. lb.; tins free. Sample, 2d. Deposit system. RICHARD DUTTON, Terling, Essex. A 94

HEALTHY DRIVEN BEES, during the present month, 3s. per lot, including Fertile Queens. JOHN SOLE, 133, Stinton-street, Cambridge. A 93

WANTED, good Two-Frame EXTRACTOR. Approval. Deposit. BROWN, 17, Alpha-road, Crawley. A 88

HALF-A-TON splendid EXTRACTED HONEY. Sample, 3d. Tins found, returnable. PULLEN, Ramsbury, Hungerford. B 2

DRIVEN BEES.—Healthy STOCKS with Queens. August, 5s.; September, 4s. each. PHILLIPS, Spetchley, Worcester. B 3

OFFERS WANTED for four HIVES of BEES in Meadows' 15s. "XL-All" Hive. Also "Guinea" Extractor and Ripener to contain 56 lb. Further particulars, apply, J. HARDY, jun., Goxhill, Linc. B 4

Editorial, Notices, &c.

"CONFECTIONERS'" AND "GROCERY TRADES'" EXHIBITIONS.

SPECIAL NOTICE TO EXHIBITORS.

Some discrepancy, with regard to the value of prizes and dates for closing entries, having been discovered between the wording of the "list of prizes and conditions" connected with the above shows, and advertisements on the subject which have appeared in our pages for some time past, we have—in the interest of all concerned—made inquiries into the matter, and it appears that the mistakes were due to the temporary absence from town (through illness) of the gentleman who prepared the prize schedules for press. In order, therefore, to make matters clear, we are authorised to say that the amounts offered in prizes, and dates for closing entries in honey classes will be as advertised in BEE JOURNAL, but with the addition of a fourth prize of 10s. in classes U and V at the "Grocers'" Exhibition as announced (on page ii. of advts.) in this issue.

Special attention is also invited to the fact that the printed "conditions" in schedule with regard to size and shape of glass jars for extracted honey *do not apply to the Trophy Class* in either of the Exhibitions referred to. In other words, the Directors desire to allow exhibitors full liberty in making the "Trophies of Honey and Honey-products" as attractive as possible, without restriction as to shape or size of jars or vessels holding extracted honey, bearing in mind the words, "in suitable form for a tradesman's window," &c., as per schedule.

DEVON BEE-KEEPERS' ASSOCIATION.

The third annual exhibition of the above Association was held at Northernhay, Exeter, August 3, in conjunction with the Devon and Exeter Horticultural Society.

Considering the season it was a fair show, but the entries were not so numerous as last year. The weather was very much against the attendance.

Mr. J. M. Hooker officiated as judge, and made the following awards :—

Twelve 1-lb. Sections. — 1st, J. Seldon, Umberleigh ; 2nd, L. Brealey, Sampford Courtenay.

Three Frames of Comb-honey for Extracting.—1st, J. Seldon ; 2nd, A. Turner, Holsworthy ; h.c., J. B. Hoale, Chittlehampton.

Single 1-lb. Section.—1st, H. F. Beale, Andover ; 2nd, H. Patey, Kingsbridge ; 3rd, C. Squire, Morthoe ; 4th, E. E. Scholefield, Chudleigh.

Twelve 1-lb. Jars Extracted Honey (light).—1st, Rev. D. Jukes, Crediton ; 2nd and 3rd, Mrs. Phillips, Kenton ; h. c., Mrs. Woosnam, Bickington ; c., J. B. Hoale.

Twelve 1-lb. Jars Extracted Honey (dark).—1st, Mrs. Woosnam ; 2nd, C. S. Waday, Dorset ; 3rd, E. E. Scholefield.

Six 1-lb. Jars Granulated Honey.—1st, J. Hookway, Wellington ; 2nd, S. Head, Ivybridge ; h.c., A. W. Barker, Cockington.

Beeswax. — 1st, H. Patey ; 2nd, E. E. Scholefield ; v.h.c., Mrs. Woosnam ; and E. E. Scholefield.

Display of Honey.—1st, J. Seldon. No second prize. Only two entries.

Observatory Hive with Bees and Queen.—1st, E. E. Scholefield.

Collection of Hives and Appliances.—Certificate of merit to T. H. Burgess & Son, Exeter.—(*Communicated.*)

NORTHANTS B.K.A.

The annual show of the Northants B.K.A. was held on the long-to-be-remembered wet Bank Holiday, August 6, in Delapre Park, Northampton. The exhibits staged exceeded 100, which was considered satisfactory for an unfavourable season. Some fine sections were disqualified through the edging exceeding the limits allowed, and two jars of honey for the "open class" were smashed by parcels post.

Messrs. R. King, J. Perry, and J. R. Truss judged the honey and wax classes, and Mr. Geo. Hefford the honey-cake class, the awards being as follows :—

Twelve 1-lb. Sections.—1st, Jas. Adams, West Haddon ; 2nd, W. Manning, Northampton.

Twelve 1-lb. Jars Extracted Honey (light).—1st, C. Cox, Brampton ; 2nd, W. Reynolds, Overstone ; 3rd, C. Wells, Oxendon ; 4th, W. Manning.

Six 1-lb. Jars Extracted Honey (dark).—1st, F. J. Old, Piddington ; 2nd, W. Manning ; 3rd, Jas. Adams.

Six 1-lb. Jars Granulated Honey.—1st, James Adams ; 2nd, J. Pollard, Bucks ; 3rd, C. Cox.

Three Shallow-Frames Honey in Comb.—1st, C. Wells ; 2nd, C. Cox ; 3rd, F. J. Old ; 4th, Jas. Adams.

Beeswax.—1st, Mrs. Wells ; 2nd, C. Wells ; 3rd, C. Cox ; 4th, F. J. Old.

Six 1-lb. Sections (non-winners of 1st Prizes Only).—1st, Miss E. M. Adams, West Haddon ; 2nd, C. H. Smith, Thrapston.

Six 1-lb. Jars Extracted Honey.—1st, E. Williams, Overstone ; 2nd, Miss E. M. Adams ; 3rd, Mrs. W. Reynolds.

Super of Comb Honey, Glass or Wood.—1st, Mr. W. T. Cave, Broughton ; 2nd, E. Williams.

OPEN CLASSES.

Single 1-lb. Jar Extracted Honey.—1st, W. Patchett, Thoresway, Caistor ; 2nd, Geo. Page, Holcot ; 3rd, W. Rooker, Banbury ; 4th, W. G. Dear, Woodford, Salisbury ; 5th, C. Wells ; 6th, T. Blake, Broughton ; v.h c., F. Chapman and F. Sandle ; C. Cox.

Single 1-*lb. Jar Extracted Honey.*—1st, C. Cox ; 2nd, T. Blake ; 3rd, Geo. Page ; 4th, Mrs. Cox ; v.h.c., W. T. Munn, Northampton ; h.c., C. Wells ; com., W. Reynolds.

Cake Sweetened with Honey.—1st, Mrs. Wells, Oxendon ; 2nd, Mrs. Cox ; 3rd, Mrs. Hefford, Kingsthorpe ; 4th, Miss Nellie Ward, Hitchin.

BRISTOL, SOM., AND SOUTH GLOS. B.K.A.

The Bristol, Somersetshire, and South Gloucestershire B.K.A. held its annual exhibition of honey, &c., at Yatton, Som., on August 1 in connection with the North Somerset Agricultural Society.

The entry was somewhat small as the result of the season, but the exhibits included some excellent samples of honey.

An observatory hive with queen sent by Mr. E. S. A. Gough, Congresbury, not for competition, attracted much interest.

Messrs. G. Lovell, Wrington, and F. Chapman, Wells, officiated as judges, and made the following awards :—

Collection of Honey.—1st, G. W. Kirby, Longwell's Green, Bristol.

Twelve 1-*lb. Jars Extracted Honey.*—1st, G. W. Kirby ; 2nd, G. H. Caple, Stanton Prior.

Twelve 1-*lb. Sections.*—2nd, G. W. Kirby ; 3rd, E. S. A. Gough, Congresbury.

Single 1-*lb. Jar Extracted Honey.*—1st, H. F. Beale, Andover ; 2nd, Frank Kirby ; 3rd, G. H. Caple.

Single 1-*lb. Section.*—1st, H. F. Beale ; 2nd, E. S. A. Gough ; 3rd, G. W. Kirby.

MEMBERS ONLY.

Twelve 1-*lb. Sections.*—1st, G. W. Kirby ; 2nd, H. F. Jolly ; 3rd, E. S. A. Gough.

Twelve 1-*lb. Jars Extracted Honey.*—1st, F. Chapman ; 2nd, G. W. Kirby ; 3rd, Frank Kirby.

Three Shallow-Frames Comb Honey.—1st, G. H. Caple ; 2nd, G. W. Kirby ; 3rd, E. S. A. Gough.

Beeswax.—1st, G. W. Kirby ; 2nd, Frank Kirby.

Three 1-*lb. Jars Granulated Honey.*—1st, Ivan Sheppard, Chewton, Mendip ; 2nd, G. W. Kirby.

Three Jars Extracted Honey (1 lb., ½ lb., ¼ lb.).—1st, G. W. Kirby ; 2nd, G. H. Caple ; 3rd, E. S. A. Gough.

Six 1-*lb. Sections* (Beginners only).—2nd, Mrs. Tripp, Yatton.

Six 1-*lb. Jars Extracted Honey.*—1st, Ivan Sheppard ; 2nd, Frank Kirby.—(*Communicated.*)

WORCESTERSHIRE B.K.A.

The annual show of the above association was held in connection with the Agricultural Exhibition at Madresfield on August 9th. The newspaper weather forecast of "some rain" was, unfortunately, more than verified. A very good lot of honey, &c., exceeding most expectations, was shown, and Mr. T. I. Weston acted as judge and made the following awards :—

Observatory Hive with Bees and Queen.—1st, A. R. Moreton ; 2nd, W. W. Hunt.

Twelve 1-*lb. Jars Extracted Honey.*—1st, H. F. Beale ; 2nd, E. A. Millward ; 3rd, L. Higley.

Six 1-*lb. Jars Extracted Honey.*—1st, H. F. Beale ; 2nd, E. A. Millward ; 3rd, C. D. Fitch.

Six 1-*lb. Jars Extracted Honey* (*dark*).—1st, Jno. Berry ; 2nd, Miss M. Vaughan ; 3rd, Miss E. Johnson.

Beeswax.—1st, Jno. Berry ; 2nd, Miss E. Johnson.

Shallow-Frame of Comb Honey.—1st, L. Higley ; 2nd, T. Farmer.

MEMBERS ONLY.

Hive for General Use (made by amateur).—1st, A. R. Moreton.

Twelve 1-*lb. Sections.*—1st, E. A. Millward ; 3rd, J. P. Phillips (no second).

Six 1-*lb. Sections.*—1st, E. A. Millward ; 2nd, W. E. Hyde ; 3rd, W. W. Hunt.

The Rev. E. Davenport was on the ground with the County Council Bee Tent, and was able to do a little lecturing during the temporary cessation of the rain.—(*Communicated.*)

BEE AND HONEY SHOW

AT NETHER COMPTON, DORSET.

The eighth annual show, under the auspices of the Yetminster and District Beekeepers' Association, was held on August 2 in the picturesque grounds of Compton House, by the invitation of Colonel J. R. P. Goodden, President of the Association. There was a good number of entries, and in the open classes for sections and extracted honey the competition was very keen.

Mr. H. M. Tilley, Dorchester, and Mr. F. Chapman, Wells (Somersetshire), judged the exhibits and made the following awards :—

Standard Frame of Comb Honey.—1st, F. Trott, Leigh ; 2nd, G. Leeding, Bradford Abbas ; 3rd, P. C. S. Bishop, Compton ; 4th, C. Smith, Bradford Abbas.

Shallow-Frame of Comb Honey.—1st, Miss Ffooks, Totnell, Leigh ; 2nd, J. Andrews, Thornford ; 3rd, S. Feaver, Compton ; 4th, G. Leeding.

Four 1-*lb. Sections.*—1st, S. Feaver ; 2nd, Miss Ffooks ; 3rd, F. Trott ; 4th, W. Pomeroy, Bradford Abbas.

Bell-Glass of Honey (*over* 10 *lb.*).—1st, G. Leeding ; 2nd, T. Bishop, Bradford Abbas ; 3rd, J. Andrews ; 4th, — Hart, Compton.

Bell-Glass (*under* 10 *lb.*).—1st, F. Trott ; 2nd, T. Banger, Leigh ; 3rd, G. Leeding ; 4th, J. Andrews.

Four 1-*lb. Jars Extracted Honey* (*dark*).—

1st, J. Andrews; 2nd, C. Smith; 3rd, E. Higgins, Bradford Abbas; 4th, J. Collings.

Four 1-lb. Jars Extracted Honey (light).—1st, F. Trott: 2nd, T. Bishop; 3rd, S. Feaver; 4th, A. Bicknell, Compton.

Beeswax.—1st, W. Pomeroy; 2nd, G. Leeding; 3rd, J. Andrews; 4th, S. Feaver.

Collection of Honey and Beeswax.—1st, F. Trott; 2nd, W. Pomeroy.

Champion Prizes for Collection of Honey and Beeswax (previous 1st prize-winners only).—1st, G. Leeding; 2nd, R. Jeans, Bradford Abbas.

OPEN CLASSES.

Single 1-lb. Section.—1st, G. Spearman, Colesbourne, Andoversford; 2nd, H. F. Beale, Andover; 3rd, T. Banger, Leigh.

Single 1-lb. Jar of Extracted Honey.—1st, S. G. Leigh, Broughton, Hants; 2nd, G. Spearman; 3rd, W. Norris, Bradford-on-Avon.

Collection of Bee-flowers Sought after by Bees.—1st, Miss Hilda Leeding, Bradford Abbas; 2nd, P. C. S. Bishop, Compton.

Bee Driving Competition (members only).—1st, G. Leeding; 2nd, E. Higgins; 3rd, T. Hart; in first competition. 1st, G. Leeding; 2nd, J. Andrews; in second competition.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEES FIGHTING OVER WET COMBS.

PROTECTING STORE COMBS FROM WAX MOTH.

[4066.] The article and letters now appearing in our JOURNAL on this question open up a subject of great use and interest at this particular period of the year. We are now clearing up our bees for the season. At any rate, my experience points to the wisdom of doing so now, except in heather districts. Certainly sections should all be off, otherwise the honey will be carried below as the cells in the brood nest become empty, or used for food by the bees. Some sections, if only partly filled, will yield excellent extracted honey, and we have left those treasures—sweet clean sections, partly filled with comb, which will act as tempting "baits" next season to get some strong stock up into its supers in time for the first honey flow. The great point is that these sections must be sweet and clean, not left sticky with honey, which may ferment, and which is certainly undesirable in view of next season's crop.

Those who use long hives, with frames hanging parallel to entrance, can place their sections behind the division board for the bees to clean up, but as with square hives this cannot be done easily, here comes in a new use for the "super-clearer." By its aid a whole rack of sections may be placed over a hive, the slide in the "clearer" drawn out or moved aside till the work has been done, when the slide may be pushed carefully in and the bees allowed to descend by the "Porter bee-escape."

I am writing to suggest that we have here a wiser way of cleaning up both supers and frames than by leaving them in the open for the bees to fight over. I have been told myself by a bee-keeper of experience that he places his comb outside at a distance from the hives, and that they are cleaned up with no ill result. But it seems to me to involve a waste of energy on the part of the bees hardly commensurate with the end in view. I think it would be of great interest if the questions were ventilated in our columns as to (1) the best way of getting combs cleaned up before being stored; (2) the best way of storing them; and (3), most important of all, how to secure them from wax moth. I cannot but think that too little is thought about the wax moth. An apparently clean comb may be the means of introducing it into the very heart of a hive in the spring. — HAMPSHIRE RECTOR, *August 16.*

[Although the outdoor or open air method of getting wet combs cleaned up—to which reference is made above—has been advocated by an American bee-authority of considerable repute, we have never advocated its general adoption in this country. Where room is so limited as with us, and an "upset" in the apiary is liable to involve more serious consequences to neighbours than in the U.S.A., different methods are to be preferred, and, aided by the latest form of super-clearer no bee-keeper of ordinary intelligence and a little experience need have much trouble in getting wet combs cleaned up.

Referring to our correspondent's other two proposed subjects for ventilation, viz., storing combs and protecting them from wax moth,

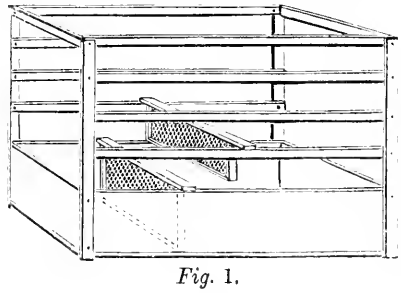


Fig. 1.

we reproduce above a sketch of a simple contrivance devised by ourselves many years ago, which in our hands answers the purposes of storing combs for future use and keeps them clear of moths.

The "body box" (fig. 1) is 9 in. deep,

14½ in. from front to back, and 32 in. long, inside measure. So that, if needed, standard size combs may be stored therein. Three-quarter-inch or even ⅝-in. board is quite strong enough for the sides and floor of the body box. The uprights at each corner are 33 in. long, 2 in. wide, and ½ in. thick, nailed on to the outside of body box. Four light rails—slaters' laths answer well for these—front and back form the runners on which the frames hang; they are nailed on the inside of uprights with their top edges 6 in. apart, the top rails only being continuous. This rack when complete is very light, and will comfortably hold 100 frames.

The sketch (fig. 2) represents the frame of cover, and is made of very light laths, the

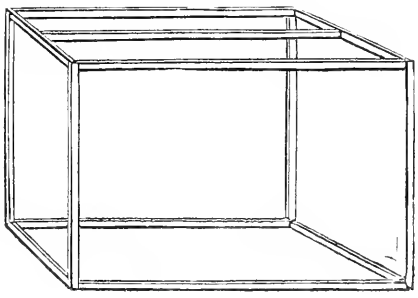


Fig 2.

uprights being 34 in. long, and the internal dimensions of just sufficient length and width to slip easily over the "rack" when the latter is full of frames of comb. When nailed up, this frame has a covering of several thicknesses of strong paper pasted together, and the whole is then complete. The cover fits down over all quite close to the ground, and we find that no moths or spiders, &c., ever attempt to enter at the bottom edges. A few pieces of naphthaline are placed in the body-box, and the fumes will permeate the whole of the combs and stop mischief. For fumigation of combs with sulphur, space is allowed in body box for holding the burning brimstone in an old tin lid, and when a hot coal is put in, the cover is placed over the whole, and keeps in the fumes.—EDS.]

OLD TIME "BEE-HOUSES."

A REMINISCENCE OF OVER THREE HUNDRED YEARS AGO.

[4067.] While looking through the records of the old parish church here recently I came across the following, which may possess interest for B.J. readers. It relates to the will of John Robinson, then rector of the church, which will was made on October 6 and proved in November, 1583. To quote the quaint wording *verb. et lit.*, the worthy rector bequeaths to "my powre sister, Em Bayred, and John Bayred, her son, ye fether bed which I lye upon, three pewter dishes, and three sosers, two little brass potts, and one bushell barlye or otes." He further remembers "My servant, John Wereall, and servant, Mode Tippinge," and gives to "Roger Wytleg ye best cow." Later on we read:—"I doe gyve to the use of the church of Assheton all those my bee-houses." Finally he says: "If I die between October 1 and June 1 ther shall be twenty hops of barlye for ye powre of ye parish by discretion of Robert Vawdrey," &c.

We thus learn that there were bee-keepers here some three centuries ago.—JOHN YARWOOD, *Ashton-on-Mersey.*

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In Mr. Frank Barber we have another practical bee-keeper who is a tradesman and sells the produce of the apiary seen on next page over his own counter. In this way we find one more combination of business with a pleasure-giving and profitable hobby, nor do we despair of so keen a bee-man being some day found with a helpmeet who is not an "anti-bee-keeper." In writing of himself Mr. Barber says:—

"From a child I have been a keen student of Nature, and took a positive delight in every 'creepy and crawlsome thing.' Naturally the bees, both *Bombus terrestris* and *Apis mellifica*, came in for a large share of attention, and I used to spend hours, when ruminating on a summer morning, lying close to the ground prostrate on my chest watching the bees extracting nectar and pollen from flowers. I did not then quite understand the habits of bees, for, after catching several, carrying them home carefully in a handkerchief, and shutting them up securely underneath a flower-pot, I was bitterly disappointed after releasing them when they flew away, never to return.

"After a while, however, I began to try and learn something of their true nature by entering into conversation with any one who I thought was interested in the honey bee, and thus gleaned much valuable information. I next induced an experienced bee-keeper to show me some practical manipulations with live bees, and this more than ever excited my admiration, and I had an attack of bee-fever from which I have never yet recovered. Our garden was too small for keeping bees, but through the kindness of a farmer friend, who offered to let me keep some hives on his farm, I purchased six colonies, and began at once to further improve my knowledge of apiculture by practical experiments, also by purchasing Mr. Cowan's excellent 'Guide Book.' I also became a member of the Berks B.K.A., studying regularly the bee papers and any work on bees that I could get hold of, and I soon began to feel fairly proficient in the craft.

"I at once began to increase my stocks by natural swarming, and, as my apiary extended,

I became anxious to try my hand on the show bench. I at first confined my efforts in that line to local classes, and from these went on until, at the present time, I have secured in all a total of seventeen prizes, including two prizes and diplomas at the Agricultural Hall, London, Grocers' Exhibition. In the year 1898, one of my hives was turned upside down in the depth of winter by a pig, and, curiously enough, this hive gave the best results of the following year.

"In February, 1900, Father Thames overflowed its banks, the water rose with great rapidity, and I had to borrow 'water-cress boots' and wade through 2 ft. of water to rescue my hives and carry them to a dry location.

"The Thames Valley is very rich in bee-flora. Early in the year, February, the bees work on the willow, in April we have fruit-blossoms, in May they are busy on sainfoin, whilst June brings the white clover.

"My apiary, situated on undulating ground facing the main road and railway, attracts considerable attention from passers-by. Being in extended order the hives naturally appear very small.

"A constant companion in my apicultural pursuit is a fox-terrier named 'Crafty.' He always makes a detour when nearing the hives, and sits about forty yards away patiently waiting my return. My efforts to induce 'Crafty' to face the camera were in vain, and I much regret his absence from the photo as an ideal dog for a bee-keeper.

"In 1898 my hives were in three different locations, two of which caught the honey-dew, whilst one was entirely free from it. I found that, travelling from one location to another was extremely tiresome, so this spring I resolved on 'mobilisation,' and my thirty-three stocks are now altogether.

"Some of your correspondents seem to have a difficulty in disposing of their produce; my difficulty, however, is in getting enough honey to supply customers. Each year I have to buy, and believe I could sell it all if I could raise a ton annually. I am a grocer, and make a big show in my window; I also find that by making a display at our local show that I get new customers thereby. Several of my customers take one, two, or three dozen every year, and I find by supplying the finest-grade produce I have no difficulty in retaining their custom.

"Foul brood has not yet made its appearance in my apiary, although cases have occurred in this locality. I have kept bees on both systems—viz., in skeps and bar-frame hives, and I have decided to abandon in future all skeps. I also note that some of your correspondents boast of the 'grey mare' being the better horse—viz., of having a wife who does the bulk of the indoor work relating to apiculture, such as straining and bottling honey, wax-rendering, selling produce, &c. Unfortunately, I have no one to assist me, my parents, brothers, and sisters being anti-bee-keepers, regarding bees in the same light as the 'Chinese Boxers' seem to regard Europeans. Amongst other hobbies I include wood-carving and poultry-keeping, but *the* hobby which I love best as being health-giving and affording the most pleasure, while yielding the best profit at the smallest outlay, is the hobby of apiculture."

MR. FRANK BARBER'S APIARY, BOURNE END ON-THAMES, BUCKS.

Queries and Replies.

[2478.] *Extracting from Brood-Combs. Amount of Food for Wintering.*—I commenced bee-keeping last year by buying a hive of bees in the spring, and I have now three hives; two are established stocks and one a swarm of this year, all very strong and doing well. Would you kindly tell me how much (if any) honey I may extract from the frames in the body of the hive at the end of the season? The book on bees I have seems to suggest extracting all honey and feeding the bees with syrup for them to store during the autumn and seal over for winter use. 1. Is this correct? 2. My two stocks have at present each their full complement of frames in brood-nest, all not occupied with brood being well filled with sealed honey. Each hive has a rack of sections on, also well filled. I am now in doubt how much honey should be left for winter consumption, and shall be glad of advice.—B. J. D., *Acton, W., August 5.*

Reply.—1. Without knowing what "book on bees" is referred to we have no hesitation in saying that, if the directions are as stated, the advice given is not "correct," and it will be advantageous to replace it with a safer "guide." In other words, we deprecate any removal of honey from brood-chambers, except under certain conditions, which seldom arise. 2. Remove all surplus-chambers with contents without delay, then examine brood-chamber, and if the combs therein contain less than from 20 to 25 lb. of sealed food the bees should be fed till that weight is stored for winter use.

[2479.] *Earwigs in Hives.—Dealing with Unfinished Sections.*—1. How can the presence of these insects in hives be explained? Do they crawl on to the quilts when the latter have been thrown down on the grass, or is it possible that they have got up the legs and in at the entrance? Will the bees ultimately kill the pests, and if not, will they be likely to live over the winter? 2. Which is the better way of dealing with unfinished sections—store them for another season, or place them on the top of the frames, and allow the honey to be taken down below?—Clumber Spaniel, *Andover, Hants.*

Reply.—1. It is quite possible for earwigs to obtain access to hives in the ways stated, just as they will climb up dahlia stakes to seek the shade of flower pots set on top as traps. The insects will also often rear whole batches of young beneath the shelter of a hive-roof. The readiest remedy is to sweep them into a vessel containing water and destroy when caught. They live for some time if left alone, but disappear during winter. 2. Partly-filled sections should have their contents extracted, and be cleaned up by the bees before storing for use another year. Some leave them *in situ* for the bees to carry the honey below, but at times they refuse to do this and retain possession all winter. Extracting is therefore preferable.

[2480.] *Transferring to Frame Hives.*—I commenced bee-keeping in June last with a swarm in a straw skep. I intended placing the bees in a frame-hive which I had ready, but as the skep had been already partly filled with combs by the swarm, I was advised not to shake the bees out to get them into the frame-hive because of breaking the tender combs. I have since had another swarm, and placed it in the frame-hive. Having now another frame-hive ready for use the question is—1. Can I transfer my first-named swarm from the skep to a frame-hive at this time of year? And if so, what is the best way of doing it? I thought of having the bees driven, but not possessing ready-built combs to put them on, what do you advise? I should like them transferred if possible, as the skep is very old and would hardly weather the winter. 2. I am making a frame-hive, and would like it to be on the "observatory-hive" principle. I therefore ask, Could I let a sheet of glass in each side with shutter to cover in Standard size hive without any detriment to bees?—A Beginner, *Stafford.*

Reply.—1. An experienced hand could, no doubt, successfully transfer the bees and combs to a frame-hive, but we do not advise a beginner to attempt the operation. It will be far safer to leave the bees in the skep, which latter, for protection, could be placed in the loose outer-case or cover of frame-hive for winter, and in the spring allow the bees to transfer themselves by the plan so often described in our pages. 2. If by "observatory-hive principle" you mean nothing more than a window through which the ends of frames and bees may be seen, provide one window only in back of hive, taking care that the glass is flush with the inside of hive-wall, and protected with a close-fitting shutter. There being no "standard size hives" we presume "Standard frame" is meant.

[2481.] *Transferring Bees.*—I got a swarm of bees which had been hived a short time before in a straw skep, and the latter I have now working at the heather. Being desirous of transferring the stock to a frame-hive, I ask:—1. Would it be better to "drum" the bees out of the skep when they return from the heather, and put them into the frame-hive and feed up for winter, or keep them in the skep till spring, and then put the skep above frames, such as you have in previous numbers recommended? 2. I make this inquiry because by "driving" on their return from the heather I would get the honey, but probably lose some brood, would I not? Please state which course you consider preferable from every point of view.—Skep, *Uddingston, Glasgow.*

Reply.—Unless you had built-out combs in

frame-hive on which to put the driven bees on their return from the heather, the "driving" plan must almost certainly end in failure, as the bees would not build out combs so late in the season. Winter the bees in skep, and let them transfer themselves in spring, as we always recommend.

[2482.] *Cell-Cappings of Brood and Honey.*—Will you be good enough to explain the following points through the B.B.J.:—1. Ought the cappings of cells containing brood to be of same colour as those filled with honey? 2. Is it usual to find honey above the brood-nest? 3. Are cells containing larvæ capped before they are worked out to the proper width of frame? 4. Can foul brood be detected by unevenness of cappings of a brood-nest?—J. B. W., *Gelli Lydan.*

REPLY.—1. No, the cappings of brood-cells are darker in colour than honey-cells. 2. Yes. 3. Brood is never capped over before the comb is built to the normal width of about seven-eights of an inch. 4. Not definitely or clearly.

[2483] *Starting an Apiary—Requeening Weak Stocks.*—Will you kindly advise me under the following circumstances:—On May 4 I had a hive, strong and healthy. Two months later I found it badly attacked with wax-moth and the bees lazy and listless. There was neither honey nor pollen in the cells, all being empty. I abolished the affected frames and replaced with new ones with clean pieces of comb attached, and confined the bees to six frames. To-day they are just as I left them on July 4, only their number has considerably decreased. I have therefore now confined them to four frames. They have not done any work whatsoever. I ought to say that when I changed the frames in July I gave them a frame of brood and honey from a strong hive, and on August 10 I found the capped cells are being opened and the honey extracted. On July 4 I could see neither a queen nor a drone—they were all workers. It is the same to-day. 1. Would it be well to introduce a queen, there being no drones to fertilise her? 2. I have about an acre of ground round my house, surrounded by high trees—chestnuts, elms, beeches, limes, laburnum, &c.—which I think of converting into an apiary. Kindly say if such land would be suitable and what number of hives I could have.—G. C., *Bletchley.*

REPLY.—1. No good result would follow the re-queening of a stock described as above. It seems more than probable that the bees have been queenless for several months; consequently they are now old and unfit for nursing the colony into good condition for winter. 2. The position seems favourable, and if the bee-forage is good and plentiful there is ample room for as many hives as you would care to look after. But we strongly advise you to keep only a few stocks until experience has been gained in bee-management.

Bee Shows to Come.

August 25, at Dumfries.—Eighth annual Honey Show of the South of Scotland B.K.A. Open classes for "threes," with prizes of 20s., 15s., 10s., 5s., 2s. 6d.; and for appliances and wax, also for single jar and section.

August 29, in St. John's Schoolroom, Blackpool. Annual Show of the Blackpool and Fylde Horticultural Society. Exhibition of honey under the auspices of the Lancs. B.K.A. Open classes for twelve 1-lb. sections and twelve 1-lb. jars extracted honey.

August 29, at Congleton.—Cheshire B.K.A. Show in conjunction with the Cheshire Agricultural Society. Eight classes (four open) for hives, wax, and honey.

August 30, at Montgomery.—Montgomery and District Flower Show. Two open classes, for six 1-lb. sections, and six 1-lb. jars extracted honey.

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes."

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes.

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page ii.) **Entries close September 8.**

September 29, at Jedburgh.—Annual Show of the Roxburghshire B.K.A., in the Church Hall, Queen-street. Twenty-four classes for honey, &c. Schedules from Thos. Clark, Secretary, Pleasants, Jedburgh, N.B. **Entries close September 25.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

C. THOMAS (Beaminster).—*Removing Box after Transferring Bees.*—If the bees are using the frame-hive as their main brood-chamber it should not be difficult to find the queen on the combs; and if so found we should at once place a queen-excluder on top of frames before replacing the "grocer's box" from which the bees have transferred themselves. In the course of a few days examine the box, and if no sealed brood is seen it may be removed without delay.

K. D. McK. (Helenburgh).—*Soluble Phenyle.*—If not obtainable locally write direct to the manufacturers, Messrs. Morris, Little & Co., Doncaster. See B.J. of July 26 (page 300) and August 2 (page 310) for further information, which it is needless to repeat here.

W. H. HORN (Leeds).—*Non-swarming Hives.*—1. We have had no experience of the so-called "non-swarming 'Wells' hive," and consequently cannot advise as to "the most successful way to work it." The maker of

the hive should be the best person to explain its merits. 2. There is no chance of getting shallow frames of comb built out at end of August by feeding. 3. The non-swarming chamber should be removed to its place above brood nest soon after the workers have started comb building therein. It is bad practice to delay removal till either queen or drones have taken possession. In the latter case the queen must be got off the combs and run in at hive entrance. If drones are found they must be shaken off the combs and left to enter the hive in usual way before placing the non-swarming chamber above queen excluder.

FRANK W. SMITH (Leamington).—*Experts' Certificates.*—For particulars regarding this apply to the Secretary, B.B.K.A., Mr. Edwin H. Young, 12, Hanover-square, London.

A. R. B. (Harrow).—*A Beginner's Queries.*—1. We are not aware of any library in London where books on bees may be hired, and with regard to the remainder of our correspondent's twelve queries as enumerated, it would occupy too much space to reply to them. Not only so, but the questions are so elementary in character that we may sum up the whole by advising the purchase of a reliable guide-book, without which it is about hopeless to expect success with bees. On the other hand, it must not be expected that any book will supply such information as "What part of a pound of bees does it take to cover a frame?" or even answer the equally curious query which asks: "What is the smallest number of bees" (by count, we suppose) "that can start a colony from brood." In fact, our correspondent will forgive us for assuring him that he will get on better with bee-keeping by taking the advice given in a good book without desiring to know more than it teaches, or trying to improve on well-tried plans.

ALF. MATTHEWS (Melksham).—*Transferring Bees.*—Leave bees in skep and give up the idea of transferring. We will print your query next week with fuller reply.

FURZE (Brighton). — *Extracting Unsealed Honey.*—1. As a rule honey extracted before being sealed over or ripened will not keep long owing to fermentation setting up. 2. Unripe honey should not be mixed with that which is ripe for the reason named above.

PERCY BROOKE (Isle of Man).—*Entomological Books on British Wild Bees.*—The latest and best work on the British wild bee is "Hymenoptera Aculeata," by Edward Saunders, F.L.S. (published by L. Reeve & Co.). This work describes every species of ant, bee, and wasp that has been taken in Britain up to the year 1896. The complete edition contains a number of coloured plates in which most of the species are beautifully and accurately figured. The beginner will find these to be of great service in enabling him to easily identify his captures.—F. W. L. S.

ENQUIRER (Kent).—*Licence for Selling Honey.*—We do not think there is the smallest risk in selling honey without a licence. "A hawker's licence costing 5s. per annum" is an entirely different thing, as subjecting the holder to certain rules and regulations which can have no possible bearing upon the action of a bee-keeper in offering his honey for sale. The latter stands in the same position as a farmer's wife who goes round in her market cart selling eggs and such-like farm produce, and needs no licence for so doing.

Suspected Comb.

A. W. B. (Hereford).—Comb in both cases is affected with foul brood.

W. H. H. (Lurgan).—Nothing worse than pollen in comb.

A. L. B. (Dinas Powis).—The dozen of sealed cells in comb sent contained no trace of disease; in fact, the brood was in normal condition and nearly ready for hatching. In the few unsealed cells there is some pollen, but nothing worse.

J. W. B. (Crosby).—No disease in comb.

Honey Samples.

F. W. P. (Crewe).—Honey is good in colour and flavour, mainly from white clover, but too deep in colour to be wholly from that plant. There may be some "lime" in it, but not enough to give it the "minty" flavour characteristic of the lime. Its chance of success on the show-bench would, of course, depend on what was staged against it.

H. J. B. M. (Bidston).—Honey is too dark to sell well in liquid form. It would be best to allow it to granulate before offering for sale, as flavour will improve when honey is solid. Photo is good, and we are having it engraved for "Homes."

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, HONEY, 30s. cwt.; BEES, 1s. lb. DAWKINS, Four Oaks, Sutton Coldfield. B 7

DRIVEN BEES.—Few Lots, healthy, 1s. lb. Box free. BEECROFT, Ashford, Staines. B 19

MEADOW'S "W.B.C." only been used one season. What offers? WEST, Thatcham, Berkshire. B 13

YOUNG FERTILE QUEENS, guaranteed. Per post. JOHN SOLE, 133, Sturton-street, Cambridge. B 5

HONEY WANTED. Send sample and price to WEISE, 41, Selby-road, Anerley. B 6

HONEY, first-grade, 45s. per cwt. in 28-lb. tins; free on rail. F. WOOLDRIDGE, Chippenham, Wilts. B 12

DRIVEN STOCKS, with Queens (100 Lots), 3s. Boxes returnable. PULLEN, Ramsbury, Hungerford. B 16

QUEENS, young, fertile. Selected Queens only sent out, 2s. each. F. WOOLDRIDGE, Chippenham, Wilts. B 11

HEALTHY DRIVEN BEES, with Queen, 1s. 3d. per lb. What offers for small lots with queen? E. GARNER, Broome, near Biggleswade, Beds. B 14

(Prepaids continued on page vi.)

Editorial, Notices, &c.

SHROPSHIRE B.K.A.

ANNUAL SHOW.

The above show was held in conjunction with the Shrewsbury Horticultural Society's great floral fête on the 22nd and 23rd inst., in the beautiful grounds of "The Quarry," Shrewsbury. There was a very good display of bee-produce, including splendid samples of extracted honey and some good sections. A new class for medium-coloured honey, introduced this year, was well filled. The B.B.K.A. silver medal, bronze medal, and certificate were awarded to Mr. S. Cartwright, Mr. H. Wood, and the Rev. Dan. Phillips respectively.

The arrangements of the show were carried out by a committee, of whom Mr. Roff King was chairman, Miss M. E. Eyton, hon. treasurer of the Society, and Mr. S. Cartwright, hon. secretary. The Rev. J. T. Buckler, Bidston, Mr. A. Watkins, Hereford, and Mr. Cock, Stafford, officiated as judges, and made the following awards :—

OPEN CLASSES.

Twenty-four 1-lb. Sections.—1st, S. Cartwright, Shawbury; 2nd, J. Carver, Wellington; v.h.c., H. Wood, Lichfield.

Twelve 1-lb. Sections.—1st, A. Hamer, Llandilo; 2nd, Mrs. F. Bromley, Annscroft, Shrewsbury.

Twenty-four 1-lb. Jars Extracted Honey.—1st, E. Clowes, Blackbrook, Newcastle; 2nd, S. Cartwright; h.c., F. Law, Pattingham.

Twelve 1-lb. Jars Extracted Honey.—1st, H. Wood; 2nd, J. Morris, Bishop's Wood, Stafford; h.c., J. Clay, Wellington.

Twelve 1-lb. Jars Extracted Honey (medium coloured).—1st, E. Carver, Wellington; 2nd, F. Law; h.c., J. Clay.

Collection of Honey from various Flowers.—1st, J. Bradley, Yockleton.

Honey Trophy.—1st, J. Bradley; 2nd, A. Hamer.

Frame-Hive (price not to exceed 15s.).—1st, W. P. Meadows, Syston; 2nd, T. Lanaway & Son, Redhill.

Frame-Hive (price unlimited).—1st, W. P. Meadows; 2nd, T. Lanaway & Son.

Collection of Appliances.—1st, W. P. Meadows.

Honey-Beverage—1st, J. Bradley.

Honey-Vinegar.—1st, P. Scattergood.

Bee Flowers.—1st, J. Bradley; 2nd, Miss E. Humphreys, Stretton Heath; 3rd, G. Lloyd, Overley; v.h.c., Mrs. W. Powell, Cold Hatton.

Beeswax.—1st, R. Holland, Wellington; 2nd, J. Carver; v.h.c., Phil. Jones, Church Stretton.

MEMBERS' CLASSES.

Twenty-four 1-lb. Sections.—1st, S. Cartwright; 2nd, J. Clay; v.h.c., Phil. Jones.

Twelve 1-lb. Sections.—1st, H. Wood; 2nd, E. Carver.

Single 1-lb. Section.—1st, S. Cartwright; 2nd, A. Hamer; h.c., W. H. Brown, Shrewsbury, and E. Savage, Halston, Shrewsbury.

Twenty-four 1-lb. Jars Extracted Honey.—1st, H. Wood; 2nd, S. Cartwright; v.h.c., W. E. Sharp, Ludlow; h.c., Rev. Dan Phillips, Market Drayton.

Twelve 1-lb. Jars Extracted Honey.—1st, Rev. Dan Phillips; 2nd, A. Hamer; v.h.c., W. E. Sharp.

Twenty-four 1-lb. Jars Extracted Honey (dark).—1st, J. Clay; 2nd, F. W. Norris, Cardington; v.h.c., Rev. Dan Phillips.

Novelty in Honey or Wax.—1st. W. H. Brown.

ARTISANS' CLASSES.

Twenty-four 1-lb. Sections.—1st, Phil. Jones; 2nd, A. Hamer.

Twelve 1-lb. Sections.—1st, E. Brookfield, Myddle; 2nd, P. Graham, Montford; v.h.c., J. Clay; h.c., Phil. Jones and J. Churton.

Twenty-four 1-lb. Jars Extracted Honey.—1st, E. Brookfield; 2nd, A. Hamer; v.h.c., J. Clay; h.c., J. Carver and L. Powell, Cold Hatton.

Three Shallow-Frames of Comb Honey.—1st, F. W. Norris.

COTTAGERS' CLASSES.

Twelve 1-lb. Sections.—1st, Mrs. W. Powell; 2nd, J. Jones, Chelmick Pools.

Twelve 1-lb. Jars Extracted Honey.—1st, G. Croxton, Yorton; 2nd, J. Jones.

Six 1-lb. Sections.—1st, J. Jones; 2nd, Mrs. W. Powell.

Single 1-lb. Section.—1st, J. Jones; 2nd, Mrs. W. Powell; h.c., G. Croxton.

Six 1-lb. Jars Extracted Honey.—1st, J. Stanton, Besford; 2nd, G. Croxton; 3rd, Mrs. Powell.

Single 1-lb. Jar Extracted Honey.—1st, G. Croxton, 2nd, J. Jones; h.c., Mrs. Powell.

LEICESTERSHIRE B.K.A.

The Leicestershire Bee-Keepers' Association held their annual exhibition at the Abbey Park Flower Show, Leicester, on August 7 and 8. The show of bees and honey proved as interesting as in previous years. There was a large display of honey of a very superior quality in the exhibition tent. One class alone contained twenty exhibits, many of them of such high quality that the judges (Mr. H. M. Riley, Leicester, and Mr. Hayes, Beeston, Notts), with difficulty decided their relative positions. Lectures on bee management were given in the bee-tent by Mr. Hayes and Mr. Riley, ably assisted by Mr. Falkner, of Market Harborough, in driving and manipulating the bees. Great credit is due to the secretary, Mr. Waterfield, for the way in which the show was arranged.

Observatory Hive, with Queen and Bees.—1st, Miss S. J. Cooper, Leicester.

Twelve 1-lb. Sections.—1st, E. O. G. Head, Market Harborough; 2nd, J. Waterfield, Kibworth.

Twelve 1-*lb. Jars Extracted Honey.*—1st, G. Proudman, Tharussington; 2nd, W. W. Falkner, Market Harborough; 3rd, J. Waterfield; 4th, J. A. Topley, Walton-on-the-Wolds.

Display of Honey.—1st, J. Waterfield; 2nd, Miss Cooper.

Twelve 1-*lb. Jars Granulated Honey.*—1st, J. Waterfield; 2nd, W. P. Meadows, Syston.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Orton, Enderby; 2nd, P. F. Proudman, Lubbesthorpe.

Six 1-*lb. Sections.*—1st, Mrs. Waterfield, Kibworth; 2nd. S. Clark, New Evington.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Orton, Enderby; 2nd, S. Clark, New Evington.

Honey-Beverage.—1st, A. Brown, Loughborough; 2nd, Mrs. Garner, Waltham.

Honey-Cake.—1st, Mrs. Waterfield; 2nd, Miss Cooper.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4068.] The "Bee Case" at Basingstoke evidently rouses up the bee-keeping fraternity. I have myself received some letters on the subject approving of my "note" on p. 326 (4062). I observe your correspondent, Mr. Rowell (4063, p. 326), suggests a compensation or insurance fund; this may meet some cases, but for myself, though neither a "Boer" or a "Boxer," I think we should fight these cases and not passively allow them to drift or be met by individual bee-keepers. Let us have a "Defence Fund," and one would think that there surely are a thousand bee-keepers ready to plank down their 1s. each, which would put us on our feet at once. This fifty pounds could be invested and be available for defending any action for compensation, there need be no fixed annual payment, but whenever the "Fund" got low make another call on the generosity of bee-keepers to defend their interests. The Defence Fund committee could retain the services of a good counsel, who would read up any old statutes on law connected with bees. No doubt there are some unrepealed acts relating to bees, considering how large a part bees have filled in the economy of the country in times past.

A Plague of Wasps.—We have been pestered with the wasp for the past fortnight in our district. I hear of two or three cases where wasps have "robbed out" hives belonging to cottagers. In our home apiary we have trapped a great many, but still they seem to come with almost undiminished numbers. A pickle jar baited with wine-lees, and a piece of glass placed over the top, leaving a small space for the wasps to enter, I find as good as anything, and very few bees are tempted in, as they are when a syrup of sugar and water is used. It would appear that wasps do not travel far for food as bees do, because at my out-apiary there are very few. I certainly killed off a number of queen-wasps last spring in the roofs of my hives, and so reduced the number of nests, but wasps are plentiful a mile away in a bee-line.

Geared Extractors.—I notice Mr. Hampton's interesting letter (4055, p. 312), describing how to do it at home, but although of a mechanical turn myself I, some few years back, sent my job to Mr. Meadows, who fitted one of his geared-chain motions to the bar of my extractor, and it has worked smoothly and well ever since. Before that it had a geared motion with india-rubber bands, which latter were always wearing out, slipping or coming off the grooved wheels.

Cleaning up Wet Combs.—Having usually a good many combs to be cleaned up every season, I may add a word to the letter of "Hampshire Rector" (4066, p. 333), who suggests using a "super-clearer" with the "escape" removed.* I have used these for many years, and also managed by simply placing the rack of sections over the quilt with a hole in centre. In the latter case I only give eighteen sections instead of twenty-one, as the slats of wood on which the sections rest prevent free access for the bees to all parts of the rack if full. I always put in wet combs when the bees have ceased flying for the day, and wrap up securely so that bees cannot gain admission by way of roof. By so doing I have never had any "upset." Shallow combs, after being cleaned, are carefully packed away in the boxes, each of which can, if required, be wrapped in paper, and a lump or two of naphthaline dropped in each box. Mine, however, are packed away on shelves in the storeroom, and I rarely find traces of wax moth in them. I should strongly advise novices never to attempt getting wet combs cleaned up by placing them in an empty hive in the open. "Cleaning up of combs when above the brood-nest stimulates the stock and extends breeding. It is also an advantage then to know that your own bees only are reaping the benefit, if there is any.—W. Woodley, *Bredon, Newbury.*

* Mr. Woodley is, we think, mistaken here, the "escape" is not "removed," seeing that "Hampshire Rector" obviously refers to Mr. Meadows' latest form of super-clearer, fitted with a tin-slide near the edge of "clearer." This slide, when moved on one side or drawn out, as the case may be, uncovers a hole admitting the bees to the wet combs, and after the latter are cleaned up the slide is replaced and passage-way thus cut off from below.—Eds.

THE BASINGSTOKE "BEE CASE."

THE DEFENDANT'S STORY.

[4069.] Seeing the account of my "bee-case" on page 322 of B J., August 16, I should like to send you "the other side of the case" as mentioned in your closing remarks on the subject. Let me then say :—The plaintiff came to me on the evening of May 27 complaining that his horse had been stung in the morning of that day by my bees. He did not know whether it was a swarm or not, only that they were in great numbers. I told him that no swarms had issued from any of my hives till the afternoon. He then said, "It was not a swarm; the horse was stung about 10.45 a.m." Now it happened that my wife and I were both in the garden watching the bees at work at that time and after, and saw no disturbance whatever.

Returning with plaintiff to stable, I saw the horse was bad, and offered to ride over to the veterinary surgeon to get advice for him, which I did as a neighbourly act, and not from any thought whether the bees that did the damage were mine or not.

I explained the symptoms to vet., who had grave doubts that they came from bee-stings at all, as there was no swelling. However, I returned with lotion and medicine, myself and a neighbour staying with the mare and its owner all night, during which time he told me the mare had been off her feed for a week, and he had "slumped her down" in mowing grass to tempt her to eat. The horse died at 6 a.m. next morning, and the man who cut the animal up at the "knacker's" yard said there was inflammation of stomach. On hearing this I wrote to the "slaughterer," asking if this was so, and he replied in the affirmative. The veterinary surgeon had also told me that the possible danger from bee-stings was suffocation of throat, and there was no swelling there.

During the following week plaintiff came to ask me if I would get some one to write him out a "subscription list," and I asked the vicar if he would do this for him, which he did, I myself giving 7s. 6d. to the fund.

The next thing that happened was a lawyer's letter sent to me claiming £6 10s. damages. I then saw a solicitor, explained the case to him, who replied, stating "plaintiff had already received value of horse by public subscription." Plaintiff had collected, he said, £3 4s., and received 10s. for the animal's carcass.

Shortly afterwards I received a County Court summons of original claim with £3 4s. deducted, adding claims for "loss of use of land, 10s.; extra labour involved in making hayrick elsewhere, £1; pain from bee stings, 10s." With regard to these several items I would say :—1. "So far as loss of use of land," men were working there until they had finished their work; being two weeks after the death of horse. 2. "Making hayrick elsewhere." He did! And *also one on same land as before*. Since then he has erected a wheat rick there, and at this present day is making a barley rick. 3. "Pain from stings." Plaintiff told me during the night I stayed with him that he was not stung himself at all. 4. "Value of horse." This was at the outside £3, the mare being about twenty-two years' old and past work. I may add, plaintiff's solicitor sent a bee expert to examine hives, who was not called to give evidence at the trial.

I need hardly say all this means a heavy loss to me, with the case and costs, especially as I have only kept bees three years, and their produce has not yet paid for appliances. I first began to take interest in bees through attending a bee-van lecture, and since then I have taken in your JOURNAL and the "Guide Book," and been guided by the principles therein laid down. The case is of wide-reaching importance, since the judge's decision involves all bee-keepers in liability for the acts of their bees. Apart from proved negligence, it may be felt that the case ought to be carried further, though I unfortunately cannot myself bear the expense.

I have perhaps written at too great length, but have only stated the simple facts as they happened. Referring to Mr. Rowell's suggestion in last week's JOURNAL, I would say there already is a six-foot hedge between garden and meadow, also a row of runner-beans six yards directly in front of hives.—W. J. LONGLEY, *Post-office, Ramsdale, Basingstoke, August* 20.

MR. ROGERS' HOUSE APIARY.

[4070.] In reply to the inquiry of "S. D. E." (4064) in your issue of the 16th inst., I may say the sides of my bee-house are 8 ft. 6 in. high, and the upper 6 ft. are of perforated zinc; the lower 2 ft. 6 in. are of ⅝-in. boards, tongued and grooved. The openings mentioned by which the bees escape have a piece of perforated zinc fixed a little distance in front of each on the outside. The zinc projects above and below the respective openings some 3 or 4 in., and bees, while passing out freely, make no attempt to enter by the openings referred to.

When manipulating the lower body of the hive I stand on the ground, but for supers I stand on a wooden chair 18 in. high.

I find it very desirable to requeen every hive about the end of July. The young queen then builds up a very strong colony for the winter, and is at her best the following spring. After this in most cases the laying powers of a queen diminish. One of my hives requeened in July sent out a large swarm yesterday.

I have had a good many visitors to see my bee-house since you gave an illustration of it on page 315 of BEE JOURNAL, and in conversation I am surprised to find how few ever requeen their bees. Finding the old queen

seems to be the great difficulty, and with some almost impossible. Personally I have not much difficulty, but some beginners have been successful in the following way when quite unable to find the queen in the ordinary manner :—On a fine hot day, at about 10 a.m., move the hive from which the queen is to be taken ten or twenty yards away, and place an empty hive in its position. Open the hive which has been moved, and take from it five or six combs with brood, shaking or brushing all the bees back into the hive. Place these combs with brood in the empty hive, and all the bees on the wing will enter the new hive in the old position, and during the next two hours a great number of those in the old hive will have left and returned to their old position. The young bees and the queen will alone remain in the old hive, and she is then easily found. When this is done place all the combs again in one hive in the old position.—J. H. ROGERS, *Forest Row, Sussex, August* 25.

SOME IRISH BEE-NOTES.

[4071.] This has been a most disappointing, not to say disastrous, season for the poor bees. The last fortnight of May and first half of June were lovely, and the bees increased rapidly in numbers. Had it been a normal season they would have got a good deal of honey from white clover, but here, as elsewhere, it was an abnormally late spring, and everything was a fortnight behindhand. Since then there have been perhaps fourteen or fifteen days on which honey could be gathered. Cold and unsettled weather has been the rule —a fine warm day the exception. Stocks were very strong early in June — "boiling over" with bees—then came rain and wind for part at least of every day, and having nothing else to do the bees devoted their spare energies to building queen-cells and swarming. Swarm after swarm was returned, but it was no use, and some were perforce hived separately, which was just as well as it happened, for up to date only a very few racks of sections are even partially filled, and the bees will scarcely get enough to last them through the winter without feeding. It is a great pity, for Irish honey can hold its own anywhere. I paid a visit to a Midland county in July, and took some sections of 1899 honey with me. I saw none like it, and those to whom I showed the sections declared they could not get any so good. A grocer offered me a very remunerative price for as much as I would supply him with equal to sample. The sections which he had for sale had yellow cappings, rather unsightly looking, and the contents of the cells had a peculiarly muddy appearance ; some were evidently tainted with honey-dew. The Irish sections were quite pellucid when held up to the light, and the cappings pure white. If it were not for the difficulty of packing securely to stand the transit by sea and the cost of carriage, I believe there would be a great future before the Irish honey industry. A season like this, however, is enough to damp the ardour of the most enthusiastic bee-keeper. It may not be so bad in other parts, for here in the West we get all the rain there is.

I had hoped to tell you how my Cyprian bees turned out as honey collectors, but they have not had a chance. They threw a very strong swarm, and the present hive is flourishing with a queen evidently mated with a Carniolan drone. The cross is a good one, a fine queen and very quiet offspring.

I hope you will get better reports from other parts than I am able to furnish you with.—C. A. P., *Co. Kerry, August* 25.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Webber, whose apiary appears this week, writes so fully of himself that we need not add to his "notes." He says :—

"I am a working engineer by occupation, and commenced bee-keeping in 1893 with one swarm, and the determination to make the undertaking pay, which I have succeeded in doing from the first.

"What knowledge I have of bees has been gained by reading the B.B.J., the 'Guide Book,' and by experimenting. I have made all my own hives, and through 'experimenting' I found myself at the end of 1898 owner of hives of all shapes and sizes (*outside*), including several of the 'Wells' pattern. After adopting one as a sort of standard I 'sold out' preparatory to having uniformity in my hives.

"The time I can devote to bees being very limited, my chief aim was to construct a hive likely to give the best results with the least labour, and this I find my present hives doing to my own satisfaction, when working entirely for extracted honey. I do not seek to advise others, but give the description of my hive just for what it is worth. The floor-boards, of which I have a spare one for each hive, have a 14½ in. entrance by ½ in. deep, resting on a rough stand (no legs), two body-boxes exactly alike, a shallow 'lift,' roof-lift, and zinc-covered roof proper, the latter being painted white. A sheet of linoleum is laid between zinc and boards. The porch and slides are detachable. Each box is single-walled back and front, constructed to take twelve frames parallel with entrance, and two dummies. There are no fillets in the front of the boxes (my method of working will not allow this). They fit very closely, and I am never troubled with wet driving in. My boards for hive-making come ready planed and cut to exact length. A card for 'notes' is tacked to under side of roof. Three separate chaff-cushions are provided for each hive as being more convenient for covering around and over feeders than one large single one.

"I started with ten of these hives in the spring of last year, stocked with a good strain of bees. During the season they gave me 1,687 lb. of honey, thus averaging 168·7 lb. per hive. In the spring of the present year I added ten more hives, stocking three of them in April, and five of the remainder contain this year's swarms. I cannot yet say what the result will be, owing to the indifferent season in this part.

"The white hive in the centre of the line is a 'Sandringham,' an excellent hive, and being the first frame-hive I ever owned it seems too much like an old friend to throw out; but not being interchangeable with the others it is usually unoccupied.

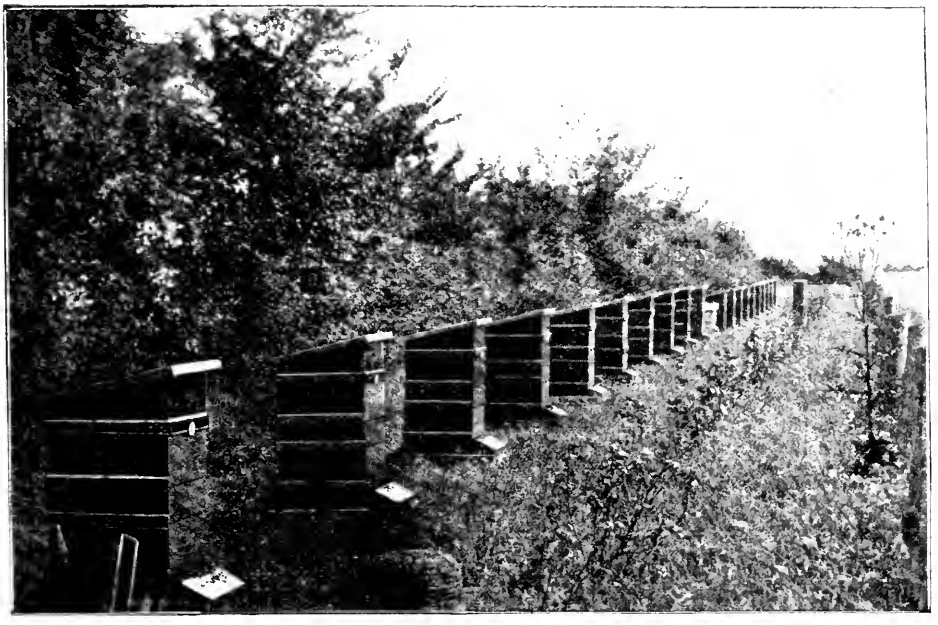
"The hives stand three yards apart, all being exactly the same size and height. The straw skep seen in the foreground was the home of my first swarm.

"The water-fountain in front of the 'Sandringham' holds about ten gallons, and is filled regularly once a fortnight. Its purpose is to keep the water level in a tray (11 in. diameter), in which are placed a number of large pebbles on which the bees can alight. It answers the purpose perfectly, for in spring and summer these pebbles are covered with bees taking up water.

"The tall hedge seen at back of hives affords excellent shelter from cold winds. The ground in front is occupied with a row of currant bushes, the shorter growth being wild scarlet poppies and grass, which, when at their best, make a pretty, natural picture.

"As regards 'management,' the following may be taken as my general method of working the apiary:—During winter all spare floor-boards and body-boxes are cleaned and receive a fresh coat of paint ready for use. Thus prepared, and after a first general inspection, usually made by the end of March, a start is made about the first warm day in April, when my assistant comes along with a barrow-load of hive-floors and bodies, and we commence at No. 1. Taking off roof and cushions, after a puff of smoke under each corner of the quilts, the stock is quietly lifted off the stand, the clean floor-board and body-box dropped in the vacant place; naphthaline put on the floor-board; quilts over stock quietly withdrawn, and as the frames are transferred singly to the clean hive a sharp look-out is kept for foul brood, from which, I am thankful to say, my apiary is free. Two additional frames, taken from the same hive in the autumn, are placed behind the others, clean quilts placed over frames, a bottle of medicated syrup given, and all covered down snugly with the cushions, roof over all. Anything special is noted down on the 'card'; roof is replaced, and away to No. 2 hive. This operation is usually completed without hurrying in the average time of fifteen minutes. The shallow-boxes placed under the brood-chamber in the autumn are also removed at this time.

"When all the hives have been gone through in this way the dirty floor-boards and body-boxes are collected, wheeled to a shed, scraped (scrapings burnt), and disinfected by having



MR. ARTHUR WEBBER'S APIARY, CHIPPENHAM, SOHAM, CAMBS.

the flame of a benzoline blow-lamp run all over inside. They are then painted over with strong carbolic acid, and at the first opportunity the boxes receive a coat of paint preparatory to taking their place as supers in the honey season. The roofs and 'lifts' are painted as they remain on the hives.

"After this, if weather allows, I inspect once a week, the bottle-feeders being refilled with warm syrup at the same time. When the eight frames already in the hives are well covered with bees two more are added, and later on another two, making up the set of twelve. These last four frames have usually done service in the supers previously, so that the twelve brood-frames are renewed every three years.

"When the honey season has fairly begun the second set of body-boxes are brought out, and one placed by the side of each hive. The latter is then opened, and a frame then containing honey and covered with bees is removed into the second box and replaced with an empty one, the excluder put on, the second box lifted over the stock, and an empty frame put front and back of the one already in, with a dummy on each side of these, the whole being covered warmly down (feeders are, of course, removed at the same time). Usually next day the bees are at work on the three frames, and two or three days later three more frames are added, and in a few days we give the remaining six frames. As soon as sealed honey is visible in the top of these frames a box of shallow-frames is placed beneath. When the top box is ready for extracting I remove the quilts and place a frame the size of the hive on top. Over this frame is stretched a piece of coarse canvas saturated with strong carbolic. A few puffs from the smoker (*not lighted*) down through the canvas and every bee descends below the frames. The surplus-box is then lifted off, contents extracted, and then the box is replaced below the shallow-frames.

"When the 'extracting' is finished for the season, and frames cleaned up by the bees, they are all numbered same as the hives from which they come, placed in a rack, and fumigated with sulphur.

"For wintering I use six frames with a dummy placed back and front, which makes it practically a double-walled hive all around, and the floor-boards removed in the spring are again used for the winter. I have never lost a stock through any cause since I commenced to keep bees."

Queries and Replies.

[2484.] *Bee-keeping as a Business.*—I have just begun to take the BRITISH BEE JOURNAL in regularly, and have found some useful information in it. I may also say that after working at bee-keeping for three years now, and on my own principle in box-hives, I consider the result has been fairly successful. In 1898 I made £6 clear profit from three hives, and in 1899 I had increased to seven hives, from which I made £15 clear. This year my apiary consists of ten hives, which have not done so well as yet on account of the cold, wet season we have had here in the north. I took them to the moors on Friday, August 3, in that lovely storm which passed over here with such force. The heather is just now nicely out, and if a month's fine weather would follow the bees would do very well, as they are all working in sections at present. I am going to undertake a thorough study of bee-keeping during the coming winter, and would like to know if it is possible to make a good living out of bee-keeping and poultry-rearing on a large scale, say, by forty hives of bees, rearing 700 chickens and 500 ducks for the table, besides keeping 100 hens for laying purposes? I have a thorough knowledge of poultry-rearing and business transactions. I would be very glad if you could help me with a little information that I could follow so as to make it a success. I would give my whole time to the work.—DURHAM RANGER, *Hartlepool.*

REPLY.—Beyond advising the purchase of a "Guide Book," and studying therein such matters as "queen raising," "artificial swarming," "packing bees for transit," and details which only a good text-book can fully supply, we go little further—so far as regards making bees profitable—than our correspondent's figures show. In fact, we should certainly not put down such results as often within the reach of an experienced bee-man as £6 clear from three and £15 from seven hives in successive seasons. We may, however, say that the results given show aptitude for the pursuit, and if followed up closely along with poultry-keeping a fair living should be within reach of any industrious man.

[2485.] *Transferring Bees to Frame-Hives.*—On June 28 I placed two straw skeps (from which bees were hanging out) above the top-bars of two ordinary frame-hives fitted with foundation. I made a board to fit over the frames and put the skep on this, allowing no bees to issue from the skep except by passing down the frames and out by the ordinary hive doorway. Everything has gone on satisfactorily, the bees working well in the lower hive. The question now arises: 1. What about wintering? Are the bees likely to have established a brood-nest in the frames, and could I smoke them out of the skeps and let them winter on the frames in lower hive? Or (2) would it be best to drive the bees up into the skeps and winter them that way? I may add that they wintered last year in the skeps, and one lot swarmed in the middle of May. 3. Is it time to take supers off yet, or better to wait until the present fine weather breaks? There is no bee-man within four

miles of my home or I would not trouble you with these questions.—J. KIRKHAM, *New Barnet.*

REPLY.—1. If the bees are well-established and brood-nest is confined to frames in lower hive, the skep and contents may be removed at once for appropriating the honey; but if any brood is found in skep it should be replaced on the frame hive (with a queen-excluder between) until all brood has hatched out. 2. Surely you cannot have grasped the principles of transferring to frame-hives when proposing to get the bees into the skep and winter them there? It would be absurd to undo the work of transferring in this way. In other words, when the bees are transferred to the frame-hive the skep becomes a "surplus-chamber," and is dealt with as such. 3. Supers should be removed at once in your district.

[2486] *Varieties of Heather.* — I lately removed four hives of bees to heather, but in view of your recent reply to a correspondent as to the worthlessness of some kinds of heather as honey-producing plants, I take the liberty of sending you some sprigs from the moor where my bees are (Wigtownshire). I number them 1, 2, 3, and 4. Nos. 1 and 2 are in greatest abundance. No. 3 looks like No. 2 more developed. There is but a small quantity of No. 4. Kindly say if any of enclosed are good honey plants? Let me add my testimony to the great service rendered to bee-keepers by your esteemed journal.—W. L., *Kilmarnock, N.B.*

REPLY.—The blooms numbered 1, 2, and 3 respectively belong to *Erica*, or *calluna, vulgaris* (common ling). No. 4 is *Erica tetralix*, and is useless to bee-keepers; but the others are good honey yielders. A full description (illustrated) of the best known heathers will be found in our issue of August 17 last year.

Bee Shows to Come.

September 5 and 6, at Glasgow.—South of Scotland B.K.A. Honey Show, in conjunction with the Glasgow and West of Scotland Horticultural Society's Exhibition. Open classes for "sixes."

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy, medals, diplomas, and liberal prizes.

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page ii.) **Entries close September 8.**

September 29, at Jedburgh.—Annual Show of the Roxburghshire B.K.A., in the Church Hall, Queen-street. Twenty-four classes for honey, &c. Schedules from Thos. Clark, Secretary, Pleasants, Jedburgh, N.B. **Entries close September 25.**

October 9 to 12, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. (See advertisement on page i.) **Entries close September 10.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. H. F. (Templemore).—*Moving Bees.*—Only an experienced bee-keeper can be entrusted with the task of packing bees in frame-hives for safe transit at this season, especially for so difficult a journey as from Ireland to England. The chapter on moving bees occupies two pages of "Guide Book," and is not long to explain all the needful details.

S. JONES (Newcastle Emlyn).—*Fermented Honey as Autumn Bee-food.*—Nothing tends more to cause dysentery in bees than wintering them on unripe or fermenting honey. This being so, we would on no account use it in autumn feeding. You might make the honey fit for household purposes by heating almost to boiling point—in order to stop fermentation—and using it up before it had time to get "out of condition" again.

W. BLAKEMAN (Hants). — *Moving Driven Bees.*—The bees should have been moved to your own place at once after driving. If they have been left on their original stands in the village "five or six hundred yards away" for any length of time, some bees will be lost if they are moved that distance before cold weather sets in.

T. LISTER KNIGHT (Redhill).—*Moving Bees.*—To convey a hive of bees safely from Norfolk to Redhill at this season, they should be packed for travelling by some one who understands the work and be conveyed by passenger train.

M. BROWN (co. Dublin).—*Swarms Dying in August.*—1. Evidently the bees have perished from want of food. You do not say how long it is since the "after casts" (by which term we suppose is meant "casts" that issued after second swarms) were hived, but the swarms should certainly have had some food after hiving in so uncertain a season as this. It is most unfortunate to find three such stocks dead from starvation, leaving "combs full of brood" as stated. 2. Such combs cannot be "good for future use" as proposed. If they are full of dead brood we should burn them.

T. P. (Northants).—*Feeding Up Bees for Winter—"Ripening" Honey.*—1. Use a little more water than usual in making the

syrup, and stir in the honey extracted from the old combs while the food is hot. 2. Begin feeding at once, not too rapidly, but continuously, to allow of the food being sealed over in good time for winter. 3. The only way to improve the consistency of thin honey is to immerse the jars in hot water for some hours to rid the honey of superfluous moisture.

AN AMATEUR (Falkirk).—*Starting Bee-keeping.*—1. Before telling "An Amateur" how to "secure a swarm of bees that have made their hive in the ground," he would need to send for our inspection a few of the bees referred to. We strongly suspect they are not the "kind of bee" he takes them for. 2. Our correspondent's "wish to start bee-keeping" is not likely to result in success unless he provides himself with a book on bees to teach him something of the art of managing them.

J. GEARY (Hinckley).—*Golden Syrup as Bee-Food.*—Golden syrup, even if "candied almost white," is not suitable for bee-food. It is too laxative in its nature, and would probably cause abdominal distention and subsequent dysentery.

L. H. (Hants).—*Queens by Post.*—1. Do not trouble to get queen sent "by rail" when your station is five miles away. Letter-post is quite safe. 2. The present is a good time to introduce alien queens, and as "a novice" you should buy from a dealer who will not only send instructions, but guarantee safe introduction. Most queen-breeders do this.

J. B. W. (Gelli Lydan).—*Surplus from Second Swarms.*—1. You will be very fortunate indeed if the bees of a second swarm (hived in a skep on June 18) manage to fill the rack of sections (still incomplete at end of August) in so moderate a season as this. 2. By all means "keep the super as warm as possible"; it will assist your chance of getting the sections completed. 3. It is practically useless to give empty sections so late in the season so far as regards getting them filled.

F. JONES (Guisborough).—*Transferring Bees.*—1. The bee sent was smashed flat in post and unfit for examination. This nearly always happens when no protection is used. We do not, however, expect to be able to say what disease the stock is suffering from by seeing a dead bee from the hive. 2. As the bees are doing badly, and making no progress, it is not advisable to transfer them to a frame-hive at all, or even to incur trouble in taking them to the heather. In fact, to "potter" with, or try to nurse up, a weak and failing colony is only labour wasted.

NOVICE (Low Moor).—There is nothing in the dead queen sent to indicate cause of death. Only a personal inspection of the hive would enable us to judge how the queen and a quart of dead bees were found behind one of the dummies. The "one frame of bees" left are practically worthless.

MR. S. A. BALLANCE (North Finchley) writes with just indignation regarding the "doings" of a so-called bee "expert" who was called in to assist a Somersetshire farmer (who is also a bee-keeper, owning about fifty hives) in ridding his bees of foul brood. According to the details given this "expert" must have been stupidly ignorant of the nature of the disease he was dealing with; but before going further into the matter it would be well to know if the man referred to was, as he gave himself out to be, a duly-qualified expert; and if this is made clear we will be very pleased to follow the matter up if desirable.

Honey Samples.

L. Darrah (Heaton Mersey).—Your sample is rather thin and dark in colour, but the flavour is by no means bad. It has been gathered, we think, mainly from the lime.

G. Kricheldorff (Wood Green).—1. Honey is mainly from white clover, but colour (deep golden) shows that it is not entirely from that source. 2. It is of good flavour and colour. 3. Without a specimen bloom we cannot name the yellow flower referred to, but it is most likely that the darker colour comes from the plant mentioned. The sample is quite good enough for showing, but its "chance" depends on what is staged against it.

T. L. Hoole (Sutton).—No. 1 sample is good in colour and consistency, flavour very fair, but not high class. No. 2, though of deeper colour, is better in flavour. No. 3 is thin, and flavour somewhat spoiled by what we take to be horse chestnut.

A BEGINNER (Heswall).—No. 1 reminds us of sycamore honey, and is only third rate in quality. Nos. 2 and 3 are much better in colour and flavour, though rather thin. No. 2 is partly from white clover, and No. 3, also from mixed sources, has a slight trace of heather flavour.

Suspected Combs.

K. CONDER (Bognor).—We find distinct traces of foul brood on scrap of paper, quite as plain as if a sample of comb had been forwarded.

G. W. MARTIN.—Your sample of comb was almost too small to enable us to judge fully as to the condition of stock, but there is no disease in the few cells available for inspection.

J. W. B. (Crosby).—No disease in comb; cells contain only pollen.

"CAUTION" (Kidderminster).—Comb has foul brood in it.

W. NASH (Bleam).—Nothing in small scrap of comb to help us in judging whether diseased or not.

Several letters, &c., are in type, and will appear next week.

Editorial, Notices, &c.

THE BASINGSTOKE BEE CASE.

Since the publication of "The Defendant's Story," on page 341 of our last issue, we have received several letters referring to the above-named case and to the proposed "Bee-keepers' Defence Fund," previously mentioned on page 326. It is yet too soon to estimate the amount of interest that may eventually be taken in the proposal, therefore the small response made so far may not be regarded as discouraging; but whatever the ultimate result may be in this respect, we need not delay in drawing the attention of those who are taking the matter up to the vital importance of securing the help of a few active men of good business habits as a working committee to carry out the proposed scheme on business lines. Nothing less than this will ensure success, and it would be well if a few of those who have taken part in initiating the plan would send in their names as willing to co-operate in the necessary labour of formulating a workable scheme. We do not enter here into the desirability or otherwise of adopting the "fighting" tactics advocated by some, but we cannot refrain from expressing our concurrence in the more peaceful methods contained in the maxim "keep out of 'law' if you can." This is, we believe, generally found to be the experience of those who try more forcible methods. And when the question of "costs" comes in small wonder when those who, like ourselves, know how limited will be the probable funds at disposal hesitate before facing the "Higher Courts" of law in all matters relating to bee-keeping.

To have fifty (or five hundred) "shillings" promised means far less than to secure the services of men such as we have mentioned above, and any one who contents himself with sending his shilling to the B.B.J. offices and leaves it there without troubling further, is not quite so desirable a helper in the good cause as he might otherwise be. The conversazione of the B.B.K.A. next month will afford a favourable opportunity for ventilating the subject, and we hope advantage will be taken of it by those who have already evinced some interest, and that they will attend and share in the discussion.

For the present, however, we should be glad to see the interest in the "Basingstoke Bee Case" take the more practical form of starting a fund for the purpose of relieving the unfortunate bee-keeping postmaster, Mr. Longley, from the heavy burden imposed on him by the verdict of his honour, Judge Gye. Contributions for this object may be sent to the B.B.J. office, and will be thankfully acknowledged.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

MAILING BEES FROM CYPRUS.

[4072.] In order to supply your readers with useful information with regard to procuring queen bees from Cyprus, and the time occupied in writing to and obtaining letter-post packets from the island, may I be allowed to say:—The island of Cyprus is situated in the easternmost basin of the Mediterranean Sea, with Asia Minor to the north and Syria and Palestine (Palestine or Holy Land, the province of Jerusalem) to the east, at distances of about 60 to 170 miles respectively. It lies between 34 deg. 33 min. and 35 deg. 41 min. north latitude, and between 32 deg. 20 min. and 34 deg. 35 min. east longitude, the distance being about 2,500 miles (or by mail route) from London.

The main topographical features of the island are the long and continuous northern and southern mountain chains referred to by Virgil, who said that "the bees of the mountain chains of Cyprus nourished the gods of antiquity." The highest summit of this range is Mount Troodos, 6,406 ft. above the sea level, and on its south-eastern slopes are the summer quarters of the British troops, and of the High Commissioner who administers the Government.

Mails for the Levant leave once a week from London regularly every Friday. To receive a queen-bee or a reply from Cyprus requires twenty-seven or twenty-eight days' time, counting from date of mailing the order on the *proper day of the week*, because from Cyprus the mails for Europe, &c., leave every Tuesday evening at four o'clock, and it is unfortunately 9 p.m. the same evening (that is to say, five hours later) before the mails from Europe arrive at Nicosia, Cyprus. This awkward arrangement is due to the necessity for the mail steamers to meet (for transhipment of mails) at the Piræus, Greece, instead of at Alexandria, Egypt, to avoid quarantine restrictions against plague in Egypt.

In the absence of quarantine the reply of a letter can be easily received within twenty-one days only.—M. G. DERVISHIAN, *Nicosia, Cyprus, August* 6, 1900.

BEE-KEEPING IN SOUTH AFRICA.

BY ONE WHO HAS BEEN THERE.

[4073.] Having just returned from Natal, South Africa, I thought that a few lines respecting bee-keeping in that part of the world might possess interest for your readers,

Being interested in bee-keeping before going out to South Africa, it was not long after arriving there before I secured a stock in an old box, and these I soon transferred to a frame-hive fitted with standard size frames. From this beginning I got together during four seasons in Natal nine strong colonies, which was as many as my small garden would accommodate.

I will now endeavour to give you some idea of the seasons and the time when our little friends gather surplus-honey in that sub-tropical climate, and at the outset let me say these remarks apply chiefly to Pietermaritzburg, as I know very little of any other district.

The bees commonly found there are rather shorter in length than the worker-bee of this country, although the queens appear to be about the same size. They are, moreover, very quiet in temper, but owing to the excessive heat there is often a deal of trouble with swarming. This trouble may, however, be to a great extent stopped by giving plenty of spare room above the brood-nest, and setting up the hives in a shady place wherever possible, or else providing shade-trees. Unless this swarming mania can be in a great measure stopped there will be no honey secured. Spring commences in August, when the earliest peach and apricot trees begin to bloom. The queen then commences to produce eggs in increasing numbers daily, and if we are to get full advantage from the first crop of honey we must now begin to spread our frames of brood very carefully; but this can be done much faster in South Africa than in England, as there are no cold nights after September comes in. I do not think the brood would run any risk of getting "chilled" if they are not given more frames than the workers can cover, and I have generally found eight standard frames quite sufficient for the average queen to keep going with brood. Although, of course, queens vary in prolificness, and each has to be treated according to her laying capacity. In a good colony drones begin to show themselves about October, and sections or shallow-frames should be put on about this time, as the bees gather surplus during the latter part of October, and on through November, from the wild flowers in the veldt. I may also mention that there is no white clover or lime (basswood) trees there; there is, however, a mauve-coloured clover that the bees visit, although not in sufficient numbers to store from it alone at one time, but, mixed with the other wildflowers, it is a very fair honey for quality, of an auburn colour. The only district from which I have seen clear, light, almost colourless honey is called Nottingham Road. Bees also gather a honey which granulates as soon as it is placed in the comb in white crystals exactly like white sugar, only that it has a sharp, acid taste which is very peculiar. (There was about ½ cwt. of this honey staged at the Pietermaritzburg Show in 1898. Of course it failed to get a prize, but it looked very white and tempting.) Then there is the "prickly pear," which yields a good supply of dark-brown honey of a very sickly taste at this season. I always used this honey to feed up my weakest stocks when I got it, as it is not fit for the table.

From the end of November to middle of February or beginning of March it is impossible to get sections in Pietermaritzburg, although they may be got in some seasons in Durban and the coast district, but during this time you may extract some of the finest flavoured honey to be had in the season, although it may be only 4 or 5 lb. from each hive.

In February and March a rather sharp tasted honey is gathered from the loquat blossoms, and sections are rapidly filled at that time for about three weeks, after which the season is finished so far as the up-country districts are concerned. But as the eucalyptus (gum tree) blooms in winter the bees have plenty of food during the cold weather, which lasts about three months; and at this season it is no uncommon thing to see swarms flying about that have been driven from their homes in the veldt by the grass fires. Strange to say, they seldom stop in a frame-hive, even if unsealed brood is given to them; they simply wait until it is all sealed over and then off they go again. In Durban and the coast district bee-keepers get a crop of honey from the mango bloom during winter, but the honey from the coast is all more or less mixed with the sugar gathered from the sugar mills which are scattered all along this coast.

There are no other varieties of the honey-bee kept here, such as the Italian, Cyprian, &c., with the exception of a very few hives of a small black (quite black) rock-bee, which is very vicious and cannot be approached, and therefore they are more of a nuisance than a pleasure. I am told, however, that the rock-bees are grand honey gatherers.

There is no foul brood or "spring dwindling" in South Africa, although I have several times seen cases of dysentery amongst the bees, notwithstanding the fact that they get a fly on every day during winter, which is the dry season, and the weather is perfect. — J. E. COLLIER, *St. Ebbs, Oxford, August* 27.

P.S.—I am rather anxious to get a first-class expert's certificate if you could kindly inform me what are the requirements, and how to go about it to get one.—J. E. C.

[Mr. E. H. Young, Sec. B.B.K.A., 12, Hanover-square, will supply the information required.—EDS.

RE-QUEENING HIVES.

[4074.] Referring to third paragraph of Mr. Rogers's letter in B.B.J. of last week (4070, p. 341), might I ask that gentleman whether he ever finds that a hive fails to re-queen itself after the removal of its queen?

On June 28 last I formed a nucleus from one of my two hives (cutting out all queen-cells on the frames left in the parent hive) for the purpose of re-queening it, thinking that, as a beginner, I should do well to be on the safe side, and keep the old queen for the further supply of eggs to the nucleus in the case of failure with the first lot. The bees in the parent hive continued work contentedly for a few days, then cast out their drones, and after that showed evident signs of queenlessness. I had not time to examine the hive, so was obliged to let matters take what course they would. I had taken care to provide the nucleus with a frame of drone-brood, and had also left a little in the parent hive, so hoped for the best. Three weeks after forming the nucleus (July 22) I had my first opportunity of examining the two hives. I found a queen-cell quite cut down in the nucleus, and one in course of being nibbled away in the parent hive; in both hives there were other queen-cells begun, but not finished. A fortnight ago (August 16) having in hasty visits to the hives seen pollen going into both, and bees of each working well, I went to them with the intention of uniting the two lots (the weather had been too bad to allow of my opening the hives earlier, and I had been surprised to see the little creatures working so well), only to find that in each case the queen was missing, and the presence of scattered drone-brood showed that the hives were headed by fertile workers.

You will notice that I did not once see my queen—I am a very bad hand at finding her; but stationary objects such as queen-cells are not so elusive.

I attribute the failure of both hives in re-queening to the unsettled weather: of course, the queens may have been snapped up by birds, but we have had such sudden bursts of rain, chilling and more thoroughly damping than honest showers, that I think many bees must have perished in them. Personally, I feel aggrieved; I don't know what the bees think.—S. Ouseley, *Beech-Hurst, Cockington, Torquay.*

NOTES FROM THE IRISH MIDLANDS.

[4075.] I am sorry that the experience of bee-keepers in the midland counties during the present year is accurately described by "C. A. P." (4071, p. 342) as "disastrous." Indeed, during the white-clover flow the bees had scarcely one entire day on which work was uninterrupted. It was saddening to see the poor creatures rushing home barely in time to be saved from annihilation by a perfect blizzard of hail and rain; and for nearly every day from the middle of July to mid-August the deluge was so incessant that a bee would rarely approach the hive entrance.

For the last ten days of August, however, the weather was favourable, and the vast area of land covered by beautiful purple heather, with which these parts abound, was rendered cheerful by the merry hum of bees; but as I write a south-western gale has sprung up, accompanied by a deluge of rain, which bids fair to eclipse even some of its worst predecessors.

Wasps, too, are a plague. They enter the strongest hives with impunity. I have destroyed fourteen nests of these bee-pests so far, but they show no apparent decrease in numbers. They destroyed two weak colonies in first week in August.

I supered a swarm of July, 1899, on May 15 this year with a rack of twenty-one sections. Last evening I removed it, and found fourteen sections well filled and sealed, five fairly full but unsealed, and two with scarcely a trace of honey. Altogether, the prospects of a good honey harvest in Ireland are decidedly gloomy.—"Celt," *King's Co., August* 31.

THE LATE-FLOWERING LIME.

[4076.] I was much obliged for the information respecting late-flowering lime-trees in your August 16th issue (4065, p. 327), and would be very much obliged if Mr. Walter F. Reid will give the name of, say, the two *early* and *later* best varieties of lime for honey production, as myself and a friend contemplate planting a quantity, and whilst so doing would naturally like to get the best! He could, perhaps, also say where they can be procured.—E. Glossop, *Ambergate.*

[We will invite Mr. Reid's attention to the above.—Eds.]

AN UNUSUAL EXPERIENCE.

QUEENS AND NUCLEI.

[4077.] I have just had rather an unusual experience with a stock of bees, and I am sending you particulars, if you think them worth recording. On August 4 I opened this particular hive to get some bees for an observatory hive at the Beddington Show. The first frame removed contained five sealed queen-cells, and I concluded that the stock was queenless. I therefore went to another hive for the required bees without examining the first-named hive further. But wishing to re-queen some other stocks, I determined to use some of the queen-cells, and Tuesday morning, August 7, took the first opportunity I had to again examine the hive.

I then found three young queens on the frame containing the queen-cells (the remaining two cells had been given to other stocks). Wishing to save the queens, I decided to place three frames of bees and a queen in each of two empty hives I had available, leaving four frames in the hive with the other queen. What was my surprise to find, on removing the frames, that some of them contained eggs and young brood! Other queen-cells were also present, one sealed, some just started.

When I came to the last frame it was seen to be full of eggs, the old queen also being present. Wishing to see what would happen, I left both the young and old queens in the hive, also the other queen-cells.

On August 25 I again examined the hive, and found two young queens on different frames, one of which contained eggs and young brood. Having a queenless stock, I decided to transfer one of the queens; but as it was late, and having no queen-cage with me, I had to defer the operation until the next day, when I found both queens together on one frame; one was caged and introduced to the queenless stock, the other left in the hive.

With regard to the two nuclei, one was "robbed out"; the other is doing well and the queen laying.—A. E. C. MUMFORD, *Redhill.*

ARTIFICIAL MANURES.

ARE THEY A HINDRANCE TO BEES WORKING?

[4078.] When judging at the Royal Counties Show at Windsor last year I was introduced to a gentleman in the tent where the exhibits were staged, and from what I remember I believe that he was in some way or other connected with the firm of Messrs. Sutton, the well-known seedsmen of Reading. Any way, he was a botanist, and a very interesting conversation we had. Among other things he asked if I "had noticed that bees will not work on plants or flowers if they have been stimulated with artificial manure?" I admitted that I had not, but he assured me that such was a fact, and he had proved it many times. I made a note at the time, intending to test it for myself, but, as the matter is of considerable interest to "the craft" generally, I would like to know if any of your readers have noticed the same fact, and, if they have, to give us the benefit of their observations in the BEE JOURNAL?—PETER SCATTERGOOD, *Stapleford, Notts.*

Queries and Replies.

[2487.]—*Transferring Bees.—A Caution.*—Early in June I caught a stray swarm and hived it in a skep while making a frame-hive; but by the time this was ready the skep contained a quantity of comb and brood, so I placed it over the top-bars of frame-hive for the colony to ultimately work their way down. About the end of July I took off the skep, drove the bees into body-box, and replaced the skep, after placing a queen-excluder on frames. The skep seemed all right, but very little—scarcely any—of the foundation was drawn out below. Upon examining the hive and skep recently, I found all brood hatched the cells empty, and only a very little honey stored—practically nil. No work has been done on frames of lower hive, no trace of queen, and the colony dwindled 20 per cent. 1. What had I better do? 2. If I unite the bees to another stock, what is best course to pursue, drive straight from present skep, or into an empty skep first?—X. Y. Z., *Crowkerne.*

REPLY.—1. The first thing to do is to take into account the fact that the colony is now rendered queenless owing to the unfortunate plan of "driving" adopted at the end of July. We have repeatedly warned readers against this plan, and the same caution appears in "Guide Book" in the chapter on "Transferring." Bearing in mind that the brood, and food, and warmth—in fact, everything that constitutes "home" is in the skep overhead, can we wonder if the bees pass up through the excluder and leave the poor queen to perish in the cold empty hive below, as they evidently did in your case. 2. We should first drive the bees from skep; then dust the combs and bees of stock intended to receive the queenless lot well with flour from a dredger; next throw out the driven bees in front of the frame-hive, dusting them also as they run in, and shaking the bees off a frame or two on top of the former lot.

[2488.] *Re-queening Driven Bees.*—I bought a lot of condemned bees and put them in their new home eight days ago. I examined the hive yesterday and found a lot of queen-cells built on the combs, I therefore ask:—1. Is this a positive proof that there is no queen? 2. Is it too late now to re-queen by giving a comb of brood from another hive? 3. If there are no eggs in the comb given will the bees raise a queen from a newly-matured grub?—F. HAMSHAR, *Burgess Hill.*

REPLY.—1. If the bees have built combs during the eight days mentioned it is quite probable that they had a queen when hived; but with no details as to the number of combs built, or their present condition so far as regards signs of brood or eggs in cells we cannot do more than say that the building of queen-cells is a usual sign of queenlessness. 2. It is now too late in the season for bees to raise queens from brood. 3. No. Queens can only be raised from very young larvæ. The only course in the case stated will be to give the driven bees a fertile queen.

[2489.] *Swarms of Current Year not Transferring Themselves.*—On May 27 last I had a strong swarm from a stock made up of driven bees in autumn, 1899, and having no frame-hive ready I hived them in skep. The bees worked well, and I placed them on top of a frame-hive the beginning of July, thinking they would work down into it, and expecting to be able to remove the skep later on; but when I examined them on August 6 it was found that, although the skep was full, weighing at least 30 lb., there was no honey in the frame-hive below, none of the combs in which

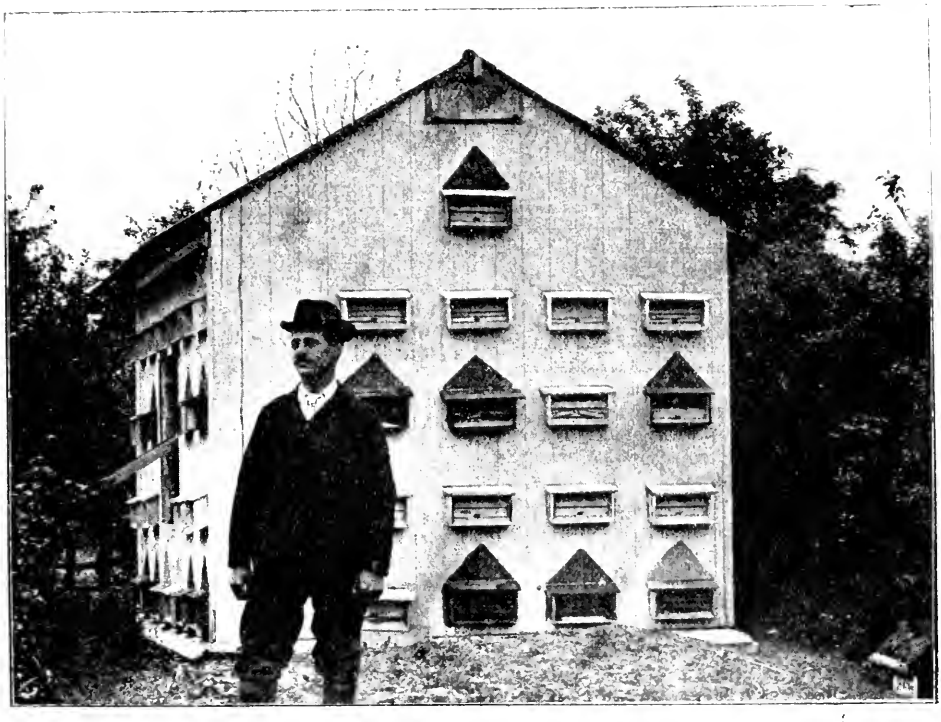
(*Continued on page* 352.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Burden's bee-house, depicted below, affords a good illustration of what can be done in the way of "housing" a good number of colonies in a small space. We have little doubt, however, that most practical bee-men will agree with our friend's resolve to work only two rows of hives instead of four, as originally designed. We welcome these pictures of bee-houses because of their affording a chance of keeping bees with comfort in places not suitable for locating hives in the open. Regarding the vexed question of the *pros* and *cons* of "inside" *versus* "outside" proved much more economical than providing such hives as are necessary for standing outside, seeing that any ordinary box made to take the standard frame answers admirably. There is no trouble with leaky roofs or damp quilts, nor is there any fear of the wind blowing hives over, &c.

"You will notice in the photo that the house is built to take four rows of hives, but I only work two, as this gives me plenty of room for tiering my twenty stocks. I keep the window open all the summer, and am never troubled with bees inside. Foul brood is kept at bay by medicating all bee-food with phenol and keeping naphthaline always in the



MR. W. BURDEN'S APIARY, MERE, WILTSHIRE.

in deciding the respective advantage or otherwise to bee-keeping, we leave Mr. Burden to give his view as follows :—

"I started bee-keeping about seven years ago with two swarms, and finding these to pay well I increased my colonies the next year to five. But being away from home all day, sometimes till dark, I found it difficult to find time for the different manipulation necessary in the daytime. I therefore thought a bee-house would be very convenient, and knowing where to get one second-hand I purchased it. This is a thing I should be afraid of doing now, as it is certain that foul brood is spread more in buying appliances, &c., second-hand than by anything else. But my bee-house has hives and plenty about the house. This keeps wax-moth and spiders away.

"I work chiefly for extracted honey, as I find this sells best. The price I get for honey here is 6d. to 8d. per lb., and the bees pay well with honey at these prices. I have given Italian bees a trial for two years and like them very much, being easy to manipulate and first-rate honey-gatherers. The secret of successful bee-keeping is by keeping all colonies headed by young queens.

"What knowledge I have obtained of bee-keeping has been got from Mr. Cowan's "Guide" and B.B.J., which I consider indispensable to every bee-keeper who would succeed."

(*Queries continued from page* 350.)

were fully worked out. I therefore beg to ask:—(1) Would it be advisable to let the swarm remain in skep as they are till next year, or (2) should I drive the bees from skep and then feed them up for the winter? If the latter, how soon should the driving be done? I am only a beginner, and do not know when the breeding season is over.—ALF. MATTHEWS, *Melksham.*

REPLY.—1. As briefly stated on p. 338 we advise wintering the bees in the skep. If the frame-hive has an outer case remove the body-box and set the skep on floor board, with entrance close up to the front. The partly worked-out combs in body-box must be moved indoors and wrapped up to carefully protect them from moths till ready for use in spring, when the skep will be replaced above top-bars as before. It is quite natural for the swarm to retain the skep as their brood chamber, especially after the moderate honey season now ended. Nor should it be expected as a general thing that swarms will transfer themselves from skeps to frame-hives during the current year. They might do so in an exceptionally good season by the skep soon filling up with honey, and so forcing the queen below for want of egg-room, but not otherwise.

[2490.] *The Legal Right to Runaway Swarms.*—Supposing that a swarm issued from a hive belonging to me, and the swarm, instead of "clustering" in my own garden, flew off and settled in that of a neighbour, and the occupier refused me permission to hive the bees, should I, from a legal point of view, be acting within my rights in hiving them without his permission? A reply in B.B.J. will oblige.—NOVICE, *Saltash.*

REPLY.—To constitute a legal claim, the owner of the hive, or his representative, must see the swarm issue, and not lose sight of the bees till they have clustered on the neighbour's premises. This done, and a personal claim made for the bees, the neighbour is legally liable for the consequences of his refusal to give them up, or for any wilful damage he may maliciously do to the swarm.

[2491.] *Amount of Sealed Food for Wintering.—Large Alighting-boards.*—1. Kindly say about how much (in superficial feet) sealed honey should be in a hive to afford a full supply for the winter? I intend to stimulate my bees by feeding in spring, so as to have them strong for the apple and pear bloom, as we must depend a good deal on that here for our surplus. 2. You recommend a large board to each hive reaching to the ground, but I fancy this would lead to insects going up to hive, and therefore think such large boards unsuitable. At the same time I consider the generality of landing-boards are made too small. 3. If it is needful, why do not the makers enlarge them? I think, however, that unless the hives are exposed to wind there is seldom a bee lost. I often stand watching the bees at work, and they seem always to alight within an inch of the entrance.—F. J., *Mountmellick.*

REPLY.—1. About two superficial feet of sealed comb is sufficient to winter a stock on. Care should, however, be taken that pollen, lightly covered with honey and then sealed over (as is often found in old combs), is not mistaken for honey. 2. When you have acquired more practical knowledge of bees, and seen really populous hives in full work, it is fairly certain that you will agree with all experienced men as regards the advantages of an alighting-board such as we commend. The trouble with insects need cause no alarm. 3. All properly made frame-hives are provided with a good-sized allighting-board, and also with an entrance the full width of the hive. It would, however, cumber hives too much if the large board reaching to the ground was added, the latter being one of the useful "kinks" acquired by experience.

[2492.] *Transferring, Supering, and Managing Bees.*—I write to ask your valuable advice with regard to my bees and their doings. I have two frame-hives and one skep at present stocked with bees, the history of the three stocks being as follows:—On May 6 last I placed the above-named skep on No. 1 hive in order that the bees might transfer themselves down into same, according to the plan I had read of in your pages about that time. The operation was a success, as they transferred all right. Later on I wanted to increase my stock, and to do this I removed the skep on July 22, and placed it on a new stand close by. The bees in skep seem to be working away all right and are carrying in pollen, but during the first day or two, after being placed on the new stand, they appeared to have killed nearly all the drones and cast out the drone-brood. I was not sure, after removing the skep, whether the queen was in it or in the frame-hive below, for after examining the frames in latter two or three times I could not find her. There were, however, plenty of eggs and brood in the combs. Not feeling satisfied I again examined the hive on August 5, and found several queen-cells, some only half-built; I also saw what I took to be a young queen on the centre frame; she seemed to be very lively. On making this discovery I carefully looked over five or six of the centre frames, but could find no eggs, but saw some sealed brood on every frame examined, also honey and pollen. I ought to say that, after taking off skep on July 22, the hive seemed so full of bees that I put on a box of shallow-frames which the bees have not entered, though they seem to be working all right.

Coming now to No. 2 hive it was wintered on five frames, the other five having since been built out from sheets of foundation, given at intervals between May 16 and June 28. I gave No. 2 a rack of sections on July 1, which

the bees did not enter until July 16, and at date of writing only two or three of the sections are finished. Some honey may still come in from late sources, also the heather which is about a mile away. Having put my case before you, may I ask for a reply to the following queries :—1. What caused the bees to throw out drones and drone-brood? 2. Will the queen be in skep? 3. Should I cut out old queen-cells of No. 1 hive or leave them? 4. When should the young queen start to begin to lay? 5. Was I right in giving a box of shallow-frames to No. 1 hive? 6. Is it uncommon for young queens to hatch out in fourteen days? 7. Did I do right in giving frames of foundation at intervals to No. 2 hive as stated, or should I have given the frames all at once? 8. Do you think I shall get sections all finished on No. 2 hive this year, or should I remove them?—JOHN BRYCE, *Armadale Station, N.B.*

REPLY.—1. Reducing the colony by about one-half, no doubt, caused the bees to make fresh domestic arrangements to suit the altered conditions, and the poor drones had to "go" in consequence. 2. It would appear certain that the queen was removed in the skep if your description is accurate. 3. No, they will do no harm if left. 4. Most likely before you see this reply if she is safely mated. 5. No; it was useless giving a surplus-chamber so late as July 22, after dividing the colony and rendering the frame-hive queenless. 6. Seeing that the young queen might be raised from a larva two or three days old, there was ample time for hatching within the period stated. 7. Yes, quite right. 8. All depends upon the yield from the heather.

[2493.] *Bees Refusing Foundation.*—I send for your inspection a couple of sections selected from several in which the bees have shown considerable ingenuity in avoiding the foundation which I supplied them with. You will see that they have commenced a comb at right angles to the foundation. In another section they continued this cross-comb from top to bottom, attaching it to the divider all the way down, and extending it to within a bee-space of the foundation. The sides of the foundation were built out in the ordinary way, but with a concave surface surrounding the abnormal comb. The other half of the section was quite normal, being built out quite regularly and sealed with a flat surface. In another section the foundation had "bulged" a little in the middle, but the bees had commenced to draw it out on both sides. Then they seem to have changed their minds, for they set to work in one half and built a fresh comb entirely, commencing a short distance from, and parallel to, the sheet of foundation. These things lead me to ask—Was the quality of the foundation below the bees' standard? If you can say this from the sample I send I shall be much indebted. I may add that I had much difficulty in getting the bees to begin work in the supers, although they were warmly wrapped up and honey was plentiful. When they did take possession they were erratic, taking kindly to some sections and completing them whilst leaving others quite untouched. Nearly all the honey seems to have gone into the brood-chamber. Trusting you can throw some light on the matter.—PEDRO.

REPLY.—Analysis alone can truly decide as to the purity or otherwise of wax used. The sections, however, are very interesting as proving the objection of bees to work on foundation distasteful to them for some reason unknown to us.

[2494.] *Introducing Alien Queens.*—By this post I send you a queen-cage containing a dead queen exactly as I took it out of the hive. I received the queen on Monday, August 27, unexpectedly from the dealer, and the same evening I made up a small stock consisting of two frames of brood and three of bees, with two frames of food. Next day, about 2 p.m., I placed the queen in the hive by hanging the case between two frames When put in the queen was busy feeding, and quite lively. On Friday evening I lifted the cage out to release the queen, and found she was dead! Only three or four bees were hanging on the cage when removed. 1. Can you tell me whether the bees have stung the queen, or say what was the cause of death? When received there was a small reddish-brown insect on the queen's back. I took it to be a *Braula coca.* 2. Do you think dusting the bees with flour would be any advantage when introducing a valuable queen? —HAWTHORN, *Leicester.*

REPLY.—1. Death probably arose from cold and the long time (seventy-eight hours) the queen was confined alone in cage. 2. "Flouring" is not necessary when introducing an alien queen. We think you would have succeeded better by following orthodox methods, such as are described in good text-books.

[2495.] *Driven Bees and late Comb-building.*—Your reply to Query 2481 (p. 336, B.B.J., August 23), reads thus :—"Unless you had built out combs in frame-hive on which to put the driven bees on their return from the heather, the 'driving' plan would certainly end in failure." It is only a week ago that I purchased some driven bees from a firm of repute, who assured me before I purchased that the bees would work out the foundations on which I intended placing them, and lay in sufficient stores for winter. Under the circumstances, I suppose I'll have to feed throughout the winter, which I wished to avoid. Immediately upon reading your reply to 2,481 I examined the hives in which I put the driven bees, and they amply demonstrate to me the truth of your remarks, for only in one hive have the bees made a beginning to build-out combs, and it required a good pair of eyes, too, to notice it.—BEE-KEEPER, *Bletchley, August 28.*

Bee Shows to Come.

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy medals, diplomas, and liberal prizes.

September 12 and 13, at Derby.—Derbyshire B.K.A. nineteenth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary, D.B.K.A., 61, Gerard-street, Derby. **Entries closed.**

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page ii.) **Entries close September 8.**

September 29, at Jedburgh.—Annual Show of the Roxburghshire B.K.A., in the Church Hall, Queen-street. Twenty-four classes for honey, &c. Schedules from Thos. Clark, Secretary, Pleasants, Jedburgh, N.B. **Entries close September 25.**

October 9 to 12, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 10.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

R. D. (Terling).—*Old, Dark-Coloured Honey as Bee-Food.*—The honey has evidently undergone more or less fermentation at some time since removal from hives, consequently it would not be safe to winter bees entirely upon it. On the other hand it might, we think, be safely utilised by stirring a portion into each "boiling" (while hot) of sugar-syrup used for autumn feeding. The syrup would need to be made thinner than usual. The honey being from your own hives is safe from foul brood.

J. F. Smyth (Co. Down).—*Building Up Stocks from Driven Bees in Autumn.*—Unless great care is taken and plenty of bees provided it is far from safe to build up stocks in this way so late as this. By contracting to about five frames, packing well with bees, and feeding rapidly and plentifully it may be done, but success cannot always be ensured.

J. W. Steele (Wembley).—*Cleaning up Wet Combs.*—Full information on this subject has appeared in recent issues. (See p. 333 of B.J. for August 23.)

R. T. T. (Thirsk).—Much obliged for "press-cutting," but to give increased publicity to all the sensational stories (generally inaccurate) about bees would serve no good or useful purpose.

W. Loveday (Hatfield Heath).—*Naming Bee-Plants.*—No. 1, *Bartsia odontites* (red bartsia). No. 2, *Euphrasia officinalis* (eye-bright). Both belong to the same order, *Scrophulariaceæ*, but neither are mentioned by botanists as visited by bees. (H. M. H.)

B. J. (Aylesbury).—*Virgin Honey.*—The term "virgin honey" is seldom used now, and its origin is lost in obscurity. It merely refers to honey from combs in which no brood has ever been reared.

John Stevenson.—*The B.B.J. and Newsagents.*—Newsagents have no difficulty in obtaining copies of the B.B.J. through our publishers or through any wholesale newsagent in London. We fear the local agent does not go the right way about it, or he would have no difficulty in supplying you.

J. H. Horn; W. Patchett; and H. T. Wright.—Much obliged for yours. The matter is dealt with on first page of this issue.

Honey Samples.

W. Collins (Co. Louth).—1. Your honey is of fairly good quality on all the points named, viz., flavour, colour, aroma, and density. 2. It is not possible to give the number of "points," there being no clearly defined standard to go by. Besides, the views of judges naturally differ somewhat.

W. Clark (Grange-over-Sands).—Sample is good in flavour and consistency. The colour (deep golden), though not so light as would please some judges, is bright and clear. It is quite good enough for the show-bench.

N. D. (Surrey).—No. 1 is quite good enough for exhibition, but should go in class for "light-coloured" honey. No. 2 might go in "medium" class, but is almost as light as No. 1. It is difficult to judge colour from samples in glass tubes like yours.

E. Walden (Wimbledon).—Sample is good in colour and well ripened, but flavour is somewhat impaired by what we take to be horse-chestnut honey.

W. W. (Hull).—Neither sample is quite up to show "standard," though No. 1 is nice in flavour and might do for a local show. No. 2 is poor in flavour and colour.

Suspected Combs.

A. Macindoe (Devon).—Of the three sealed cells, in small bit of comb, one contained foul brood.

J. and B. (Cardiff).—There are slight signs of foul brood in comb; the disease is apparently in the incipient stage.

R. H. G. (Durham).—If rest of combs are equal to sample no alarm need be felt, there being nothing worse than old pollen in cells.

J. H. (Canterbury).—Comb contains pollen only.

Some Letters and Queries are in type and will appear next week.

Editorial, Notices, &c.

THE CONFECTIONERS' ANNUAL EXHIBITION AND MARKET.

HONEY SHOW AT THE AGRICULTURAL HALL.

The Eighth Annual International Exhibition and Market of the Confectioners, Bakers, and Allied Traders was opened on Saturday, September 8, at the Royal Agricultural Hall, Islington, in fine weather and with favourable prospects of its so continuing for the remaining six days during which the exhibition will remain open.

The occasion is especially interesting to bee-keepers because of the directors of the show having for the first time introduced classes for British honey in their schedule of prizes. Our readers will no doubt remember that during the years 1898 and 1899 classes for comb and extracted honey have had a place in the exhibition held in those years by the Grocers and Allied Traders in the same building; but these competitions were confined to "master grocers only," whereas at the show now under notice the honey competitions were "open to all bee-keepers in the United Kingdom." Moreover, the classes were increased by the addition of a class for trophy of honey and honey products, displayed or arranged in suitable form for a tradesman's window. We consider this an important departure in an exhibition where tradesmen (confectioners especially) attend in large numbers for the purpose of seeing anything and everything in the way of tastefully displayed edibles and food stuffs such as would attract customers, and, of course, improve trade. Honey and honey products have so far, we think, rarely been "stocked" by confectioners, but it is fairly certain that if an enterprising tradesman purchased one of the trophies and had it removed—intact as shown—to his shop window, he would find it a profitable speculation. Not only so, but the several displays staged would suffice to prove that a hundredweight or so of high-class honey, well "got up" for market, is as attractive an object in a confectioner's window as could well be conceived, and thus worthy of attention from a business point of view alone. It would have pleased us better to have seen a dozen exhibits staged in this class, which, in view of the number and value of the prizes offered, should, we think, have produced a larger entry. It became, however, a pleasing duty of the judges to be able to award a well-deserved prize to each of the four exhibitors who showed their sense of the true interests of the craft by staging a trophy.

The two other classes were in every way satisfactory, and we have no hesitation in saying that at no show held this year have finer sections or extracted honey been staged. Where so much was good we need not particularise; the awards themselves do the "grading," and the time occupied in arriving at the respective decisions testified to the keenness of the competition.

The importance of these exhibitions to honey-producers generally cannot be overestimated. They are especially designed to promote trade by bringing together producers and distributors, and as the "Confectioners," "Grocers," and "Dairy Farmers" respectively all hold their shows in the same building in London each year, it affords an opportunity (possible nowhere else in the Kingdom) of bringing the respective articles exhibited before enormous numbers of consumers; we thus have producers, distributors, and consumers brought together in what is well named an "International Exhibition and Market" which we think must tend to benefit all.

Mr. W. Broughton Carr, London, and Mr. Alfred Watkins, Hereford, who judged the honey exhibits, made the following awards:—

Display of Honey and Honey Products (in suitable form for a tradesman's window).—1st prize (£3, with B.B.K.A. Silver Medal and Diploma), H. W. Seymour, Henley-on-Thames; 2nd (£2 and Diploma), R. Brown, Somersham, Hunts; 3rd (£1 10s. and Diploma), Jas. Lee & Son, London; 4th (£1 and Diploma), J. Greenhill, Wimbledon.

Twelve 1-lb. Sections (16 entries).—1st (£2, with B.B.K.A. Bronze Medal and Diploma), W. Woodley, Beedon, Newbury; 2nd (£1 10s. and Diploma), Rev. E. K. Iremonger, Clatford Vicarage, Andover; 3rd (£1 and Diploma), Miss S. Sopp, Newnham, Wallingford; 4th (10s.), J. Sopp, Crowmarsh, Wallingford; v.h.c., J. Seldon, Umberleigh; h.c., P. B. Govett, Tideford, Cornwall; H. W. Seymour, H. Bassett, Netteswell, Essex; c., F. Chapman, Wells, Somerset.

Twelve 1-lb. Jars Extracted Honey (33 entries).—1st (£2 and B.B.K.A. Certificate), J. Sopp; 2nd (£1 10s. and Diploma), G. Walker, Wendover, Bucks; 3rd (£1 and Diploma), Miss S. Sopp; 4th (10s.), J. Smart, Andover, Hants; v.h.c., W. Woodley, A. Joyce, Stockbridge, Hants; J. H. Seabrook, Longfield, Kent; h.c., F. Chapman, Rev. E. K. Iremonger, H. F. Beale, Andover; G. W. Kirby, Longwell Green, Bristol; c., J. Dunn Gardner, Soham, Cambs; H. W. Seymour.

CHESHIRE B.K.A.

HONEY SHOW AT CONGLETON.

The second show of the present season promoted by the Cheshire Bee-keepers' Association was held in connection with the County Agricultural Society's Show at Congleton on August 29. The entries were not so numerous as in 1899, but this fact is fully accounted for by the poor season, which Cheshire bee-keepers, in common with many others, have enjoyed (?) this year. The quality, however, of the exhibits was good, while the

weather was perfect and the attendance on the ground very large. Lectures, with demonstrations, were given in the bee-tent, under the auspices of the Cheshire County Council, by the Rev. T. J. Evans, to highly interested audiences. The Cheshire Agricultural Society intends to hold its next show in Chester, and it is hoped that if the season of 1901 be a favourable one bee-keepers in the county, and others also, will heartily support the honey department. Mr. T. D. Schofield, Alderley Edge, officiated as judge and made the following awards :—

Frame Hive (*price not to exceed* 15*s.*).—1st, John Turner, Manchester; 2nd, George Rose, Liverpool.

Twelve 1-*lb. Sections.*—1st, W. Woodley, Beedon; 2nd, J. Pearman, Derby; 3rd, H. Wood, Lichfield.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. Woodley; 2nd, H. F. Beale, Andover; 3rd, H. Wood; r., Frederick Hewitt, Tarporley.

Beeswax.—1st, John Berry, Llanrwst; 2nd, Mrs. Elizabeth Berry, Llanrwst; 3rd, Joel B. Hulme, Congleton.

MEMBERS' CLASSES.

Twelve 1-*lb. Sections.*—3rd, Miss N. V. Lyle Smyth, Barrowmore.

Twelve 1-*lb. Jars Extracted Honey* (*light*).—1st, A. Thomas, Frodsham; 2nd, Rev. E. Temple Candler, Sandbach; 3rd, H. Edwards, Rossett; v.h.c., E. A. Hutton, Hargrave; reserve No., F. Hewitt, Tarporley.

Twelve 1-*lb. Jars Extracted Honey* (*dark*).—1st, A. Thomas; 2nd, Jas. Tomkinson; 3rd, Rev. T. J. Evans, Tarvin Vicarage; r., E. Eaton, Sandbach.

Twelve 1-*lb. Jars Extracted Honey* (*district only*).—1st, G. Jeffrey, Congleton; 2nd, J. Wilson, Allostock; 3rd, T. Ramsell, Sandbach. —(*Communicated.*)

HEREFORDSHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL HONEY FAIR.

The sixteenth annual honey fair in connection with the above Association was held in the Butter Market, Hereford, on Wednesday, September 5. It must be confessed that the exhibition was smaller than usual, a regrettable circumstance in view of the excellent object of the Association, and lamented by no one more than by the esteemed Hon. Secretary and founder of the show, Mr. Alfred Watkins. Neither was the quality on a par with that of previous years, although some of the first prize-taking samples were undoubtedly of exceeding high merit. The season has not been a total failure, but it has not been a good year, largely owing to the cold weather in the early part of the summer. There may be said to be three kinds of seasons — the "tip-topper," the medium, and the failure—and this has been a medium, if not almost a third-rater. The average selling prices were —For honey in bulk, 7d.; in bottles, 8d. to 1s. The Secretary kindly lent a couple of very interesting photographs in colour—one of queen, worker, and drone bees, and the other of gorse and apple bloom. This photography is the new colour process which has been introduced during the last twelve months or so.

The judges were Mr. John Palmer (Ludlow) and Mr. E. J. Burtt (Gloucester), who had nine classes to adjudicate upon, and made the following awards :—

OPEN ONLY TO MEMBERS OF THE H.B.K.A., CLASS 9 EXCEPTED.

Collection of Honey not exceeding 100 *lb. in weight.*—1st, Silver Medal of the Herefordshire B.K.A., W. Tomkins, Burghill.

Collection of Honey not exceeding 50 *lb. in weight.*—1st, Bronze Medal of the Herefordshire B.K.A., R. Pearce, Stoke Prior.

Twelve 1-*lb. Jars of Extracted Honey.*—1st, Rev. W. Head, Brilley; 2nd, A. W. Burgoyne, Lyonshall; 3rd, J. Helme, Norton Canon; h.c., A. Hill, Withington.

Six 1-*lb. Jars of Extracted Honey.*—1st, C. Sankey, Kingsland; 2nd, J. Helme; 3rd, F. Jones, Clehonger; v.h.c., A. Burgoyne, Miss Day, Wellington, and A. Hill.

Twelve 1-*lb. Sections.*—1st, Mrs. Blashill, Bridge Sollars.

Six 1-*lb. Sections.*—1st, Miss Wootton, Byford; 2nd, C. Sankey; 3rd, J. Helme.

Three Shallow Frames Comb-Honey.—1st, J. Helme; 2nd, J. Branstone, Kinnersley; v.h.c., J. Helme.

CHAMPION PRIZE.

Best Exhibit of Honey not exceeding 12 *lb., being either Extracted Honey in* 1-*lb. Jars or Comb Honey in* 1-*lb. Sections, or made up with both.*—1st, Silver Medal of the Herefordshire B.K.A., C. Edwards, Logaston; h.c., A. Price, Pencraig; c., W. G. Harwood, Whitbourne.—(*Communicated.*)

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

L'Apicoltore (Italy).—Nomadic apiculture is a vast field little cultivated in Italy at the present day. In olden times hives kept on the banks of the Po were sent up the course of the river, and later on in Sicily the practice was much followed. At the present time numerous hives from Varallo are annually transported to the foot of Monte Rosa. If this plan was carried out with energy and intelligence it would result in the utmost possible profit to bee-keeping, as even beneath the warm Italian skies it is rare to find districts which yield bee-pasture all the year round. In ancient Lombardy and in Piedmont the buckwheat flowers in June and

July. In Sicily thyme yields a delicious nectar during the end of July and August; but buckwheat is not cultivated in all parts of Lombardy, and not *all* the soil in Sicily is covered with thyme and rosemary. If the bee-master can therefore send his bees to fresh pasture he will greatly increase his returns.

Apiculturists around Vienna, after the close of the spring season, transport their hives to Marchfeld, an immense plain, once the battlefields of Aspern and Wagram, where buckwheat, and still more heather, offer a rich booty in favourable seasons.

If the hives can be sent by water, as along rivers or canals, the risk of injury in transit is much diminished.

Le Rucher Belge (Belgium).—Whilst hiving a swarm a certain Dr. Roesgen received six or eight stings from the bees, which proved fatal after the lapse of a few moments.

This occurrence caused a great popular outcry against insects capable of causing death thus suddenly.

The truth of the case was that the doctor suffered from heart disease and sensibility to the poison of bee-stings amounting to idiosyncrasy. The year previously he had been ill and unable to work for a week or two in consequence of a few stings.

In Belgium instruction in bee-keeping has been carefully organised by the State. Each year courses of apiculture are held in different places. In 1894 in thirty-three districts, in 1896 in forty-seven, and in 1900 there is to be instruction given in 392 districts. Besides this the chief apicultural societies organise courses of instruction.

In Switzerland apiculture has made remarkable progress, thanks to the Agricultural Department of the Government and the efforts of the two great apicultural societies which exist in this country. There are more than a hundred bee-stations supported by the State. A very complete account of their work is published every year.

In Hungary the Government allows the Hungarian Apicultural Society 1,000 florins yearly (£80), and experts are sent into all parts of the country to give needful instruction. This society has establised a depot for the sale of honey, which has been increasingly successful. In Austria and Hungary nearly 120,000 florins are yearly expended by the Government for the advancement of apiculture.

In Italy instruction is under the care of institutions supported by Government, under the name of apicultural observatories, on the same principles as the sericultural observatories. These were begun in 1899. There are seven of these; practical teaching is also given in the twenty-seven Royal schools of agriculture and in four higher schools in the country. Distribution is made of hives and apicultural books gratuitously to elementary schools, to various agricultural institutions, and even to private individuals.

In Alsace-Lorraine apiculture is advancing. The society under the presidency of Dr. Hoeffel, and assisted by Government grants, is spreading instruction in apiculture. This society, with 4,200 members, sends out lecturers, and frequent meetings are held in eighty-five different centres. Exhibitions are arranged and appliances of best utility are shown and distributed.

In Germany there are more than 200 societies with from fifty to 1,200 members. Würtemburg has had lecturers appointed by Government for nearly fifty years.

Thus everywhere we see the progress made and the benefit of bee-keeping to the rural populations.

L'Apiculteur (France), Paris Exhibition.—The course of instruction in apiculture recently given in the gardens of the Luxembourg in Paris concluded with a "Promenade Conference" at the "Universal Exhibition" in that city.

By way of introduction the lecturer pointed out how bees accommodate themselves to their surroundings, as is proved by the presence of a swarm (first noticed ten years since) in the bronze statue of M. Casimir-Périer, which stands in the Cemetery of Père la Chaise. The bees can be watched going in and out in a fold of the drapery.

The first hives examined were the ancient tree trunks. The Vauchise hive, formed of four boards, is not much more practical, though still often found in distant country districts. Then hives from the Landes, from Bordeaux and Béance. This latter hive, at beginning of the honey harvest, is carefully turned upside down and capped by another of the same description. The straw Burgundy hive is like a large bell flattened above, on which is placed a box with frames. Then the Norman hive is straw, large, round, and low, with an aperture above. On this is placed a similar erection, the opening serving as communication between brood-chamber and stores; near this was the Scotch hive, which is much the same, only the lower part contains the honey; then straw hives with supers, still used in many parts, admitting of additions above or below the brood-nest; a "Huber" hive—supposed to have been the first frame-hive; then a "Gravenhorst," a curious shaped straw hive, long, in one piece, with rounded top, like the nave of a church—considered good for wintering and much used in Germany. Many now obsolete hives are exhibited, as the "Garden" hive, the "Gariel," the "Voirnot" (the cubic), the "Sagot," with triangular frames; then two of fantastic forms, the hexagonal and the cylindrical. The Belgian diagonal hive seems excellent for wintering.

There is also exhibited a really pretty hive, a perfect model of a house. Besides these there are many other kinds of hives, impossible to describe here. One thing remains to be mentioned—the work of the bees them-

selves — namely, "Société Centrale d'Apiculture" worked out in perfectly executed and well-filled comb under the care of M. Duvignet, Dep. Seine et Marne. There were also fruits, pyramids, stars, spirals, &c., formed in the same way, sent from other parts of France.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AN IDEAL QUEEN-BEE MAILING-BOX

FOR SAFE TRAVELLING.

[4079.] Some time ago I promised to describe my improved box for mailing queen-bees, and am now glad to say that after several experiments I have succeeded in making a mailing-box possessing the most desirable features for the purpose, which I beg to explain as follows :—Bearing in mind the long journey by letter-post, the main points to be considered are, supplying the bees with natural food (honey), fresh water and air, and protection from draughts and cold, while keeping them in moderate darkness. I may say the "Ideal" box, which is a modified and improved pattern of "Benton" cage, consists of two circular compartments of $1\frac{1}{8}$ in. diameter by 1 in. deep., bored in a block of $2\frac{1}{2}$-in. by 3-in. by $1\frac{1}{8}$-in. wood. The first compartment (*a*) has six air-holes bored in the grooves on each side of box (twelve holes in all), which holes are 1 in. long, so that the bees get plenty of ventilation while kept almost in darkness by the length of the holes; thus they are not always worrying to get out. The second compartment (*b*) has no ventilation holes except a $\frac{3}{8}$-in. circular passage-way leading to (*a*). The second compartment (*b*), therefore, forms a warm shelter from cold where the bees may unite to maintain heat when necessary, and thus avoid dysentery.

At the two outer sides of (*a*) and (*b*) are bored four receptacles ($\frac{1}{2}$ in. diameter and 1 in. deep), two of which hold a teaspoonful each of water. One contains honey and the fourth some candy made from icing-sugar and honey. The insides of these several receptacles, or small chambers, are thickly coated with bees-wax applied hot. When these chambers are filled with honey, &c., they are covered over with slips of waxed paper, made to adhere firmly by the application of a hot iron ring, which melts the wax round each hole, and so renders the contents air and waterproof. Thus neither the honey nor water can run out, the waxed wood does not absorb them, and the candy is preserved in a soft and moist condition. These receptacles communicate with the compartments (*a* and *b*), and those holding honey and water, each has a small aperture $\frac{1}{8}$ in. diameter, closed up with wax, in which a fine hole is pierced with a needle, so that the bees can thrust their tongues into these holes and suck out water and honey at will; neither the water nor the honey can possibly come out by themselves, unless by some accident the waxing or the waxed paper is damaged. But, in order to avoid accidents, I am arranging for a supply of small glass receptacles of suitable form, which I believe will remove all risk. The top and sides of the box are covered with fine wire-cloth; over this and on the top of the box a thin cover of wood is nailed, with a similar cover to the underside. The edges of these covers project $\frac{3}{16}$ in. beyond the body of the box, thus providing an air-space around the sides of the box, and keeping free the grooves through which the air-holes are bored. Constant ventilation is thus secured while in the mail bags.

When caging the queen is made to walk in by herself from a wire cage in which I capture and remove her from the hive without any handling with the fingers at all. I then put in ten to eighteen worker bees according to season. These companion bees are selected young ones, about eight or ten days old. I find very young bees worry themselves very little in trying to get out compared with older ones. I also seize the young bees usually while in the act of filling themselves with honey. The selection is easily made by the well-known general appearance of very young bees, and when the desired number is put in I slip the cover forward over the whole face of the side on which the entrance is made. The nails which hold down the four ends of the wire-cloth are then secured with sealing-wax. These seals render the escape or removal of any bee impossible without breaking the seals, and the consignee has on arrival of the box first to remove the wooden top cover, on which cover his address is written, in order to examine the bees. In case he finds the queen dead or ailing he has to return the box to me at once with seals unbroken, otherwise he forfeits his right to have the dead queen replaced with a live one at my expense.

The quantity of food contained in the cage will keep fifteen bees for about twenty days. The journey from Cyprus to any part of the United Kingdom usually occupies about ten days.

I feel it necessary to mention the fact that my principal object has always been to render service to my fellow bee-keepers (there being no one other than myself able to pack and export Cyprian bees during the last fifteen years), and in so doing to enjoy the pride and satisfaction of having made myself useful to the bee community of the world, my remuneration in cash being a secondary matter. I have, in order to practically test the merits of the

pure Cyprian bees, reduced the price (as advertised) to the lowest possible rate, and have done my best by efficient devices to minimise the risk to the bees of suffering on their long journey, as explained in this letter.

I am enclosing the names of the gentlemen who have had queens from me this year up to August 6, one of whom says:—"I received the queen-bee yesterday in a very lively state. We much admired your first-class arrangements for her journey." This may be taken as a sample of other letters received, while the fact of so many not reporting failure makes it certain that the queens have arrived in safety.

It is advisable and more convenient to obtain queen-bees from Cyprus during the months of September and October for the purpose of having strong Cyprian stocks early in the following March and April, when of course these queens will be in their *first and best state* for breeding, they having hatched from their cells in Cyprus in June or July, 1900.—M. G. Dervishian, *Nicosia, Cyprus, August* 6, 1900.

BEE-NOTES FROM YORKSHIRE.

[4080.] It is some time since I wrote to B.J., and as I have not seen any reports from this district, I make this an excuse for troubling you.

Our early season (may blossom chiefly) was a very good one, and I secured some capital sections from stocks which were in good working order.

Bees, as a rule, swarmed very late this year, most swarms coming off in July, and though the clover was out in good time, owing to wet weather the bees have not done so well as I expected. Judging from the tremendous crops and enormous quantities of flowers, I thought I was going to have a record year, but it was sad to see fields of twenty and thirty acres of clover simply covered with bloom, and not a bee working on it.

I find that my bees generally stop working on a field when there is still a vast quantity of bloom, and would like to know if there are any other varieties of bees that work later. Perhaps some reader can enlighten me? My best hive gave me eighty-four sections this year, and I have been wondering why it was the only one to do so. I may mention that the bees in it are very savage and difficult to work with.

I have taken fifteen hives up to the moors, but the weather is against them, and I am afraid the take per hive will be very small; however, I find that bees which have been to the moors always turn out stronger and better the following year.

If I can be of any service to our Hartlepool friend, I will be pleased to give him any information he may require *re* this district from a bee-man's point of view. We are having quite an outbreak of bee-fever here, and I am glad to say that my fellow bee-keepers are beginning to appreciate frame-hives, and I fancy the averages I obtain by working on modern lines has let them see that bee-keeping does pay, if properly managed. My total outlay this year is about £4 10s., which, putting a fair price on honey, leaves me about £20 to the good: average take of honey, 46 lb. per hive. I hope to write you later on about our doings at the moors.—Yorkshire Drone.

LATE-FLOWERING LIME.

[4081.] I should like to warn Mr. E. Glossop to hesitate and make quite sure as to the real value of the late-flowering lime (*T. petiolaris*) as a source of honey supply before planting many of that variety.

At present my query in B.J., October 19, 1899 (p. 412), remains unanswered; and again this year, after carefully watching in a district where supplies are very limited, I have no hesitation in stating what I said then, namely, that these limes are valueless for honey-bearing, and did us no perceptible good whatever.—Bee Blossom, *Norwood, S.E.*

WEATHER REPORT.

Westbourne, Sussex.
August, 1900.

Rainfall, 2·61 in.	Sunless Days, 2.
Heaviest fall, ·48 in., on 6th.	Above average, 10·6 hours.
Rain fell on 15 days.	Mean Maximum 65·3°.
Above average, ·18 in.	Mean Minimum, 51·6°
Maximum Temperature, 77°, on 18th.	Mean Temperature, 58·4°.
Minimum Temperature, 45°, on 8th.	Below average, 1·5°.
Minimum on Grass, 34°, on 25th.	Maximum Barometer, 30·57°, on 13th.
Frosty Nights, —	Minimum Barometer, 29·40°, on 6th.
Sunshine, 224 hrs.	
Brightest Day, 13th, 13·5 hours.	

L. B. Birkett.

Echoes from the Hives.

Wheaton Aston, September 2.—In response to your encouraging invitation to "go on and prosper" when my bee-garden picture appeared on June 14 last, you may be interested to know that I have taken two firsts and one second prize, and a v.h.c. at our Association Show recently held at Stafford, besides a first at our local show. I have had no large "takes" of honey this year, but the quality is very good according to my experience, my average reaching about 25 lb. per hive (176 lb. in all). I am closing the season with seven hives. My best take was forty-six 1-lb. sections and a few pounds extracted, from two swarms of June 3, which I united in one hive. The

parent hive of one swarm yielded no surplus, while from the other I got about 20 lb. I drove five skeps, and have made up two colonies from the bees by putting them respectively on eight and six frames, with built-out empty combs, last week. How much syrup would suffice to winter same? I give them a 1½ pint bottle every night. I am much interested in the Basingstoke bee case which appeared in your columns, and am willing to contribute a share towards fighting the case if it is deemed advisable. If the facts are as stated on page 341 (4069), a gross injustice has been done to one of our bee-keepers. The "Homes of the Honey Bee" continue to be very interesting. I can also endorse what A. D. Woodley says on page 314 about Mr. Horsley's comfortable apartments at the Isle of Man, having stayed there last year. — G. W. BUTTERY.

Pickwick, Corsham, September 7.—The honey yield was splendid in this district until the hot spell came, then the supply dried up, and the bees stored what looked like gas-tar, just as in 1898. They spoiled all the uncompleted sections. I had some very promising ones, but found them disfigured by a few cells quite black, others were all black. However, I hope for better luck next year. This is a good district for clover honey, though it failed this year through the great heat. The fruit orchards are numerous, and there is also a quantity of may, sycamore, horse-chestnut, and other flowering trees.—C. HAYWARD.

Chichester, September 9.—The honey season in the South of England being over, I send my usual short report. The yield this year is far below the average per stock, and in some cases bees will want feeding to prevent starvation, and should be seen to at once. No doubt this has been the worst honey season for many long years, and will have to be recorded as such in districts where there is no heather. However, we must look forward to better luck next year. I would advise bee-keepers to lose no time in seeing to stocks where short of stores; already I hear of hunger swarms issuing. This means total loss, as there are no drones now for fecundating purposes for the young bees left behind to raise a queen successfully.—JOHN DANIELS.

Keswick, Cumberland, August 27.—The heather is in very full bloom and started the middle of July, but except for one week so far it has been too cold for the bees to work it, and the weather is now quite chilly.—G. M. S.

Aylesbury, August 25.—I do not know how other bee-keepers find their yield of honey this year, but mine is 50 per cent. below previous years.—B. J.

BEES AS INCENDIARIES.

Under the above heading this is what the *Daily Mail* of August 31 says about bees:—

"A recent fire, which burned a large farmhouse at Auchterless, Aberdeenshire, to the ground, was caused in a curious way.

"For several years a stock of bees have been settled under the roof of the house, and the tenant, with characteristic Scotch instinct, decided to obtain the honey. An aperture was cut in the roof under the nest, a pot containing sulphur placed under the hole, and the sulphur ignited.

"When the tenant returned after a time to watch the progress and effect of his ingenuity he found that it had succeeded too well—that the honey was streaming on to the burning sulphur, and the roof was on fire. The bees are chuckling over the fact that the little joke has cost nearly £500."

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of August, 1900, was £4,292.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Queries and Replies.

[2496.] *Mead-Making.—Recipe 195 Years Old.*—I shall esteem it a great favour if you will give, through the medium of your paper, a good recipe for making mead, which, I think, would be appreciated by lots of readers if full particulars were furnished.—FRED WOODS, *Wisbech, August 5.*

REPLY.—The following *recipe* is from Dr. Warder's work on bees, published some 195 years ago, and, having personally sampled a mead made from the directions given, we can testify to its being one of the finest honey beverages we ever tasted. The extract from Dr. Warder's book reads thus:—

"*How to make English Canary no way inferior to the best of Spanish Wines.*

"One hundred and twenty pounds will make a barrel of very good mead; but if you make it of clear honey, then your best way is to allow 4 lb. to every gallon of water. Let your quantity be much or little, which you ought to govern yourself by either considering the bigness of your cask or the quantity of honey you have to make up into mead, mix it in your copper, and then boil it an hour, and scum it well, which scum you may strain through a 'Hippocrate's sleeve,' or a taper bag, made of swan skin, with a hoop at the broad end, letting the narrow end come to a point. This bag will make it as fine as the other, through which you may put it. When your mead is almost cold, Tun it up, clay it down, and let it stand till it is fine, and old enough to drink, which sometimes will be sooner than other, according to the time of the year and weather that comes upon it after making. This liquor

is one of the choicest of wines, as well as the most wholesome of all vinous liquors in the world, and ought to be drank and made use of in possets, &c., as canary; and thus used, it is impossible to know whether the posset was made of your own mead or canary.

"Thus for making of mead with clear honey. But if you do it with the washings of combs, or dissolve all your honey from the combs, then you must dissolve it in warm water, till an egg will swim in the mead the breadth of a shilling. But here you must be very careful, that before you break your combs into the sieve, or strainer, you separate all the young bees, which you may easily know, from the honey, and also the Sandrach (or bee-bread), which is a yellow substance, with which some of the cells are filled, which otherwise will give your mead an ill taste, and then proceed to boil, scum, and turn as before. It is best if it be kept till it is a year old; and if you make it well (as before) it will keep as long as you please."

Another and more homely recipe for mead appears in B.B.J. of November 4, 1897, which we also found good as made by a B.J. reader, but not equal to the above.

[2497.] *Using Carbolic Acid Solution for Wax-Moth.*—I was lately in the company of a bee-keeper who related an experience this year which rather puzzled me. In April last I saw his hives, which were in most promising condition, eggs and brood in all the combs. In May he put sections on, and the bees took possession. Soon afterwards, however, when about to leave home for a holiday, he found grubs of the wax-moth below sections, and, in order to get rid of these, he lifted off the sections and applied carbolic solution to the top bars of brood-frames, and then replaced the racks of sections. On returning home some time after he was surprised to find the bees had refused to re-enter the sections at all, but that each hive had taken to swarming. 1. Do you think the solution of carbolic used would be the cause of this? 2. How long does carbolic solution retain the smell which is so objectionable to bees?—J. B., *Polyphant, Launceston.*

REPLY.—1. Yes; especially if applied too freely; besides, we do not see the good of using carbolic acid under the circumstances. 2. If exposed to the air the smell goes in a few days, but if confined, as in above case, it will take much longer.

[2498.] *A Beginner's Queries.*—Excuse a few more questions from a beginner. 1. Am I right in inferring from the concluding paragraph on "Natural Swarming" (p. 19 of the new edition of the "Guide") that the new queen is not hatched out until *after* the old queen has left the hive with the swarm? 2. *Queen-mating.*—If so, what length of time elapses, as a rule, before the new queen appears, how soon after her appearance is she fertilised, and how soon after this does she begin to lay? 3. *Preventing In-breeding.*—Is the new queen fertilised by one of her own drones, or may she be mated with a drone from any other hive that may happen to be on the wing at the time? If the latter, how can the purity of breed of any particular stock be secured? 4. *Unfinished Sections.*—I have a number of partly-filled sections in supers, many with cells only a quarter filled, and as it is apparently too late in the season to have them completed and sealed over, can these be kept over for completion next year? I have no means of extracting. In some cases the comb is only drawn out and filled partly on one side of the foundation alone, and in others the foundation is drawn out on both sides, but contains but little honey. 5. When does the heather season begin and end in the central counties of Ireland?—A. F., *Uxbridge.*

REPLY.—1. Yes; besides, on same page you quote from are the words: "Casts (or second swarms) usually leave their hive on the ninth day after the first swarm." 2. The young queen leaves the hive on her mating trip three to five days after birth (*vide* p. 9 of "Guide Book"), but from various causes fertilisation may be delayed for ten or more days. About a week after maturing the young queen begins to lay eggs. 3. Natural instinct impels the young queen to seek a mate at some distance from the parent hive, and thus prevent in-breeding. 4. Failing an extractor, the honey must all be cleared out by the bees if unfinished sections are to be used again next season. 5. The heather season in all parts of the kingdom may be said to begin in August and end in September, earlier or later in the respective months according to distance north of London.

[2499.] *Feeding Driven Bees.*—I am a beginner in bee-keeping, and should like your advice on a matter which is concerning me greatly. I bought a driven lot of bees from one of your advertisers, putting them in a hive with seven sheets of foundation and one frame of drawn-out comb. The latter the bees have cleaned out, leaving the débris on the alighting-board. I have a square tin "rapid feeder" with a centre funnel, and for several nights fed the bees liberally with syrup, giving them a quart each time, and by morning they had taken it all down. Each time, however, bees remained in the tin, and as I could not get them down by smoking, a good many were drowned in syrup when refilling the feeder through the cork bottom not floating upwards. Now, however, the bees have clustered to the extent of several hundreds in the feeder, and I cannot get them to go back through the funnel, so that I am now afraid to pour the syrup in lest I should drown the bulk of the bees. Will you please tell me: 1. What "rapid feeder" I can obtain that may be filled from outside without drowning the bees? 2. How

long shall I have to keep on feeding before sufficient food is stored for the winter? I may say the driven lot was a very strong one, and the bees seem to be working well during the day; they are, however, very irritable, but that may be caused by the upset each night trying to smoke them out of the feeder. The other night I could not feed them at all owing to this trouble.—L. H., *Altrincham.*

REPLY.—Any leading appliance dealer's catalogue illustrates a rapid-feeder capable of being filled from the outside and free from the trouble of a "rising float" or "cork bottom" that floats on top of syrup. 2. Until the bees have 20 lb. of food stored.

[2500.] *Extracting from Brood-Frames.*—Referring to your reply in B.J. of August 23, p. 336, to Query 2478, I note that you deprecate any removal of honey from the brood-chamber. In the "Bee-keepers' Guide Book" I read that for the winter the size of the hive should be reduced by the removal of combs. I am a beginner and put myself under the guidance of a bee-keeper of standing, old-fashioned I have discovered, for he does not believe in full sheets of foundation, nor in tiering, nor in extracting. His practice is to remove two frames out of ten comprising the brood-chamber at the end of the season, appropriating the honey in his own way. He then gives to each hive a supply of Demerara sugar instead, to put in new frames at the beginning of the next season. 1. Is this plan to be utterly condemned? 2. When should we reduce the number of bar-frames in brood-nests? 3. What should we do with those which we take out?—"SOUTH-WEST," *Exeter, August* 29.

REPLY. — The "reply" alluded to was intended to deprecate as strongly as we could the mischievous teaching mentioned by "B. J. D.," viz., that of removing all honey from brood-chambers in autumn and *re*-placing the same with sugar-syrup. We never miss an opportunity of offering a word of caution against this method of dealing with bees after their season's labours are over, and happily for bee-keepers (and bees) it has almost fallen into disuse. The "British Bee-keepers' Guide Book" recommends contracting hives for winter by removal of "all combs not covered on both sides by bees"—excellent advice for those who manage their bees on the most advanced method, but it does not mean extracting contents of brood-combs as stated above. Unfortunately, however, the bulk of B.J. readers are prone to follow less troublesome methods, and we have to take this into account when advising as to what is best. We therefore again repeat, Never extract the contents of brood-chambers in autumn. Replying to the questions put by "South-West"—1. The plan of feeding bees in winter with (raw) Demerara sugar is one we utterly disapprove of. 2. About the middle of September, as advised in "Guide Book." 3. Carefully preserve the honey in combs from granulating if intended to be given to bees in spring as food.

[2501.] *Keeping Bees in a Granary.*—As a B.B.J. reader I would like to ask your advice regarding a granary as a suitable place for a bee-house. The granary is situated over some fairly high hunting-boxes and beneath a pigeon-coop. The greater part of hives would have to face north, and the ventilation-holes (brick-size), through which bees could easily pass, run all round the place at suitable distances apart, but they are within 15 in. or 18 in. of the top. As this is too near ceiling for supering, would it be advisable to make slanting outlets leading to grating from hives, which you see would need to be about 2 ft. long? I may eventually be able to get permission to remove bricks at a suitable height, but being rather doubtful at present, and in case of failure, I ask the above question. What I want to know before putting this matter to the agent is whether such a place should be chosen in preference to a corner of a field where at present bees are situated. The wet is the difficulty I have to meet, and when weather is fine all hands are needed in the harvest field. —CHAS. BAILEY, *Lutterworth.*

REPLY.—We should defer removal of hives to granary until entrances could be made through the wall at proper distances apart and about 20 in. from ground. Entrances 2 ft. higher than the hives themselves would be impracticable for the purpose.

[2502.] *Uniting Bees in Frame-Hive.*—I have had several swarms this year, and one of them I put in a cheese box as I had no spare hive. I should like to drive the bees from the cheese box and join them to a stock in a frame-hive which is rather weak. Is it too late in the season for this? They are situated about four yards from the hive I wish to join them to. Any advice on the above would greatly oblige.—J. JONES, *Pinner, Middlesex.*

REPLY.—The two stocks to be united being now only four yards apart might be easily brought close together by moving them 3 ft. towards each other every second day when bees are on the wing, and when the hives are a yard apart join them up on a stand midway between the two and they will remain where put. If both stocks have queens preserve the best of course, and destroy the other.

[2503.] *Extracting from Brood-Combs.*—I find the honey takes a long time to run down the sides of my cylinder extractor and usually leaves a coating of honey on the tin sides, which I have to scrape off. The honey was very thick and heavy, and I left it a fortnight in extractor. 1. Should I put the latter near fire to make it run? 2. I want to extract the honey from some brood-combs; when I have done this, can I pour syrup into the empty combs, and, after filling them up, put them back in the brood-nest for the bees

to cap over, so as to make up their supply for winter? 3. How must I proceed so as to fill the cells on both sides of comb with syrup?—"EXTRACTOR," *Worcester, August* 30.

REPLY.—1. In cold weather it is certainly helpful to work near a fire when extracting, but we never found it necessary to remove honey — however thick — from sides of cylinder by scraping it off. 2. We strongly advise you to restrain any desire to extract honey from brood-combs and refill by "pouring syrup into the emptied cells." The best course is to leave the bees their natural stores, which stores are, we presume, sealed over and in proper condition for wintering the bees on. To do as proposed is neither wise nor economical from the bee-keeper's standpoint. 3. If our advice be not followed, write again and we will give a plan of filling empty combs with syrup.

Bee Shows to Come.

September 8 to 15, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (8th) Annual Exhibition and Market. Classes for Comb Honey in sections. Extracted Honey and Honey Trophy medals, diplomas, and liberal prizes.

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page v.) **Entries closed.**

September 29, at Jedburgh.—Annual Show of the Roxburghshire B.K.A., in the Church Hall, Queen-street. Twenty-four classes for honey, &c. Schedules from Thos. Clark, Secretary, Pleasants, Jedburgh, N.B. **Entries close September 25.**

October 9 to 12, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries closed.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

K. O. M. (Dumbartonshire). — *Bees and Naphthaline.* 1. When the pieces of naphthaline are so nearly evaporated as to be carried out by bees, it indicates only the need of a fresh supply. The pieces should be put flat side down on floor-board. 2. *Disinfecting Hives.*—When the spores of foul brood have to be dealt with nothing short of burning, or else boiling for several hours, can be regarded as completely effectual. The flame of a painter's spirit lamp applied all over the inside surface of hives will readily burn up the spores of foul brood.

B. T. (Dewsbury).—*Races of Bees.*—No. 1 are Ligurian, and we should call No. 2 Cyprian, but it is not always easy to tell varieties of *dead* bees.

EXCELSIOR (Cambs).—The question of what is "a fair wage" is one for employer and employed rather than for editors, who know nothing of the surrounding circumstances; at least, you should consult some local man.

F. B. (Greenhill).—*Honey Vinegar.*—The process is too lengthy for us to describe in this column. Write to the Rev. Gerard Bancks, Dartford, Kent, for his pamphlet on Honey-vinegar making, price 3d.

G. R. (Greatham).—*Insect found in Hive.*—Yes, you are quite right, it is a death's-head moth. We are surprised at your bee-keeping friend thinking it to be a queen-bee.

SPURIUS CASSIUS.—*Transferring Bees and Frames.*—The combs and bees may be lifted out as soon as convenient and placed in the new hive, with very little disturbance. Let them occupy the same position relatively as in the old hive.

Honey Samples.

POM-POM (Lancs).—Honey is good in colour, though rather thin. The flavour is peculiar, and I cannot recognise the source from whence it comes. It might make a nice table honey when granulated, if not caused to ferment by keeping in an unsuitable place. 2. Heather is *Calluna vulgaris*, or common ling, and is a good honey-producing plant.

Suspected Combs.

J. A. (Glasgow).—1. The dried-up larvæ in box shows no outward sign of disease; we cannot say what the microscope might reveal, but will try, and report in this respect some days hence. 2. The sample of comb contains foul brood. 3. The treatment adopted was drastic, but correct, and if followed up as proposed should yield good results. 4. If sprayed with soluble phenyl, as per recipe No. 8 (page 167) in "Guide Book," the section and comb may be safely used again.

WALLHEAD (Stickney).—As there is only a single cell containing brood in No. 1 sample we cannot be quite certain that it is diseased. Contents are suspicious, but would need microscopic examination to determine whether it is foul brood or not. The same may be said of No. 2. It is only a case that needs careful watching and the use of preventives.

C. C. J. (Diss).—The brood has been chilled, but foul brood appears to be developing in the hive, as there are slight traces of it in piece of comb sent.

J. P. J. (Llanberis).—Comb is badly affected with foul brood.

T. N. (Skewen).—Comb is affected with foul brood.

J. J. (Lancaster).—Bad case of foul brood.

D. S. R. (Roseneath).—Slight signs of incipient foul brood; disease apparently just developing.

ANXIOUS (Chichester).—Piece of comb is affected with foul brood.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

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STRONG STOCKS BEES with seven frames brood and honey, in returnable case, 12s. 6d. per stock. Driven Bees with Queen, 1s. per lb. S. FULLBROOK, Oare, Pewsey, Wilts. B 78

CHOICE young QUEENS, tested. I have a few to spare, and can send by return post; safe arrival guaranteed; 2s. each. A. J. CARTER, Billingshurst, Sussex.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

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BEES.—I am entirely giving up Bee-keeping, and will dispose of 20 good healthy Stocks; eight in bar frames, twelve in skeps. No honey taken away this season. Will sell either in one lot or separately. MRS. KIME, Mareham-le-Fen, Boston. B 71

FIVE HIVES of BEES FOR SALE, two in new "W.B.C." hives, two home-made, one skep. A "Gerster" and Solar Wax Extractor, Smoker, Feeders, Weed Foundation, Super Clearer. Accept £6 for the lot, or offers separately. Must sell. GEO. HOPE, Ainstable, Kirkoswald, Carlisle. B 74

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FINE EXTRACTED HONEY, 50s. cwt.; 3 cwt. carriage paid; tins extra (returnable). Put up in 1-lb. screw-caps, 8s. per doz. W. J. GARNER, Dyke, Bourne.

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FOUR strong STOCKS in straw skeps, 1900 queens, 12s. 6d. Guaranteed healthy. Driven Bees, 1s. 3d. lb., with fertile queen. Strong 4-Frame, Nuclei, Fertile Queen, 11s. 6d. 1900 Fertile Queens 2s. 9d. Cash with order. WOODS, Normandy, Guildford. B 44

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Editorial, Notices, &c.

DERBYSHIRE B.K.A.

ANNUAL SHOW.

The nineteenth annual exhibition of bees, hives, honey, &c., was held in connection with the Derbyshire Agricultural Society's Show at Derby on September 12 and 13. Though the number of exhibits was smaller than last year, they were of exceptionally good quality, and great praise is due to the energetic Hon. Secretary, Mr. F. Walker, for the admirable way in which the show was arranged.

The season, from a bee-keeper's point of view, has been a very moderate one in Derbyshire. The hot weather experienced really came too late to benefit honey producers, and when the rain came it was too heavy for the bees to work well, and consequently the production was not so large in quantity as in some previous years, and many members had really nothing to show. On Wednesday Mr. Scattergood, the judge, Mr. Rowland, an expert, of Holbrook, and Mr. Hill, a member of the Committee, gave demonstrations in bee-driving, &c., which were most interesting. Amongst the exhibits in the show-tent was a wonderful collection staged by Mr. Walker, who had a splendidly-arranged stand containing samples of honey from various counties in England, Ireland, and Scotland, as well as from Jamaica, Chili, Greece, and other distant places. He had also specimens of clover, sainfoin, heather, and other kinds of honey. Mr. Walker's stand was a very instructive one, and was greatly admired. The judge was Mr. Peter Scattergood, of Stapleford, who made the following awards :—

Bees with Queen in Observatory Hive, on one Brood-Frame.—1st, H. Hill, Ockbrook ; 2nd, J. Pearman, Derby ; 3rd, T. Richards, Church Gresley.

Bees with Queen in Observatory Hive, on two or more Brood-Frames.—1st, H. Hill ; 2nd, J. Pearman ; 3rd, S. Durose, Burton-on-Trent.

Display of Honey.—1st (and Silver Cup presented by Mr. Alderman Barber), J. Stone, Cubley ; 2nd (and Silver Medal), T. Richards ; 3rd, H. Hill.

Twelve 1-*lb. Sections.*—1st, J. Stone ; 2nd, S. Durose ; 3rd, T. Richards.

Twelve 1-*lb. Jars* (*light honey*).—1st (and Silver Medal), J. R. Bridges, Chesterfield ; 2nd, R. H. Coltman, Burton-on-Trent ; 3rd, H. Hill ; 4th, S. Durose.

Twelve 1-*lb. Jars* (*dark honey*).—1st (and Silver Medal), F. Walker, Derby ; 2nd, S. Durose ; 3rd, J. Stone ; 4th, J. Pearman.

Exhibition of Honey Products.—Gold Medal, F. Walker.

Beeswax. — 1st, J. Pearman ; 2nd, H. Meakin, Newthorpe, Notts ; 3rd, J. Stone.

Extracted Honey (*cottagers' class*).—1st (and Silver Medal), F. Howard, Sudbury ; 2nd (and Bronze Medal), J. Pearman ; 3rd, G. Thornhill, Alport, Bakewell.

Twelve 1-*lb. Sections.*—1st, H. Wood, Lichfield ; 2nd, G. Spearman, Colebourne, Gloucester ; 3rd, J. Stone.

Twelve 1-*lb. Jars Extracted.*—1st (and Silver Medal), J. Smart, Andover ; 2nd, G. Spearman ; 3rd, H. F. Beale, Andover.

Twelve Jars of Granulated Honey.—1st (and Silver Medal), S. Durose ; 2nd, G. Spearman ; 3rd, H. Wood.

1-*lb. Section.*—1st, G. Spearman ; 2nd, H. Seamark, Willingham, Cambridge ; 3rd, H. F. Beale.

1-*lb. Jar Honey.*—1st, H. F. Beale ; 2nd, G. Spearman ; 3rd, H. Seamark.

Collection of Appliances.—1st, R. H. Coltman.—(*Communicated.*)

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Leipziger Bienen-Zeitung (Germany).—The inventor of "Propolisin" (Mr. R. Spiegler, Grossheuersdorf, in Saxony), having sent a supply to the South African medical authorities for trial, has received the following interesting information with a large order for the British army. "Dr. W. Powell writes from Cape Town, dated May 8 :—'In our hospital all the cases of bomb wounds without exception became serious. Many amputations were necessary, and most of the patients died. As soon as we received the "Propolisin" all this changed. The wounds (often very severe) healed with marvellous quickness without any after results. It had also a wonderful effect on "septic" wounds and bad forms of eczema. Fifty-eight patients were thus treated, with perfect success in every case. When the supply of "Propolisin" was exhausted the former symptoms returned, notwithstanding the utmost care and skill.'"

"The mother of Baden-Powell, the valiant defender of Mafeking, keeps several hives of bees in her drawing-room. They were the gift of Sir Benjamin Brodie, and have been at work there for forty years. The bees occupy one side of the room in hives of the finest straw-plait, on artistically-ornamented stands, which are so arranged that the bees can be watched at their labour, while they themselves cannot get into the apartment, the hive-openings communicating by tubes with the open air. We may be sure they are happier in their drawing-room prison than their old friend felt at Mafeking."

"We are told that a bee-keeper in a village near Rudolfstadt, in Austria, has an old wooden hive with the date 1767 and the name of his grandmother engraved on it. The colony in this hive has never died out since that time ; thus the stock is 133 years old."

Bienen-Wirtschaftliches Centralblatt (Germany).—Herr Giche writes :—"In my apiary I

one day observed a great number of small black ants which were swarming over the weakest of my stocks. They were evidently issuing from an old empty skep, that had stood in the same place for years. Raising the hive in question I saw first a wasps' nest, and on turning it round I found that humble bees had built in the top of the skep as far down as the lowest cross stick. I suppose the wasps drove out the humble bees and built their nests on the cross sticks. This happened last year. I had seen numbers of wasps, but they had made a passage for themselves by way of the stand about three yards from their nest. In the spring a mouse occupied the remaining room; but before she had finished with it, the little black ants took possession and found the humble bees' cells particularly useful for their purposes. A good straw fire soon destroyed the old skep with all its population. *Moral.*—The bee-keeper should practise the most absolute cleanliness. If these creatures through carelessness are allowed in the apiary the bees will certainly suffer."

"Wax ointment is highly recommended for the treatment of wounds, more especially of burns. It is made in a few minutes and is better when used fresh. To make this ointment a piece of pure beeswax should be melted gently, and then fluid rape oil slowly added until thoroughly incorporated; the mass when cold should be of a consistence to be easily spread. This should be laid on linen and applied to the wound."

Deutsche Illustrierte Bienen-Zeitung.—Mead is prepared (as to barrels, fermentation, &c.) in the same way as other home-made wines. Only the finest extracted honey and water are used, in the proportion of 1 to 4. When the honey has somewhat melted, the whole mass is placed over a gentle fire and boiled slowly for several hours, skimming carefully. When fairly clear, pour into clean vessels to cool. Any sediment left in these vessels should be strained and used for filling up. The barrel should be kept in a warm place to ferment. When the first fermentation is over, a bent tube is attached with its end in a vessel of water, and the barrel must be filled up every few days. After about twelve weeks (when no more bubbles rise from the tube in the water) the mead must be drawn off from the yeast and placed in the cellar to complete the fermentation—at first lightly corked, afterwards securely bunged down.

HONEY IN THE UNITED STATES.

More honey is produced in the United States than in any other country. The product thirty years ago was over 15 million lb. annually; twenty years ago it had risen to 25 million lb.; and ten years ago it was 65 million lb. What the production is now is not accurately known, but it is believed that there has been a great increase. One State alone, Iowa, now produces 10 million lb. each year, while several other States (including California) produce from 5 million to 6 million lb. each.—*Land Agents' Record.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

NOTES BY THE WAY.

[4082.] I was glad to see the "Editorial" on page 347 dealing with the recent bee-case at Basingstoke, and, speaking for myself, should certainly counsel fighting whenever "the glorious uncertainty of the law" gave a chance of the decision being in the defendant's favour. The case as it stands at present (especially after Mr. Longley's explanatory letter on page 341) is, in my opinion, fraught with grave consequences to bee-keepers generally, as it is likely to be quoted as a precedent by the solicitors in other disputes of a like nature. I therefore consider it ought to be carried to the higher court and thoroughly threshed out, so that justice may be done in the case. According to Mr. Longley, the plaintiff has since built other ricks within a short distance of the bees, presumably without being stung in consequence, otherwise we shall hear of further action being taken shortly for damage to some one. Our editors suggest that a committee be formed to manage these matters. If this is done the members ought to live in or near London, so that if a meeting was called a good working majority would be able to attend. It has also occurred to me to ask if the case should be carried to a higher court what would be the cost?*

I shall be happy to subscribe to a fund to help Mr. Longley, but if we bee-keepers combined and fought the case and won, that would

* Mr. Woodley is mistaken here: the only "suggestion" we made on page 347, was that a fund be started for the purpose of relieving Mr. Longley of the consequences following the—to him—adverse verdict of the judge who heard the case, as being the most practical and useful way of evincing sympathy with a "brother bee-keeper." There is plenty of time for thinking over the "fighting" method Mr. Woodley advocates, but present needs should be the first consideration, and our own anxiety is to see a few additions to the "fund" between now and next week, when a list of donations, promised or received, will be published. Meanwhile, we may defer replies to our friend's question on the *legal* points involved till a more fitting occasion.—EDS.

relieve Mr. Longley as regards this judgment would it not? Surely, we have some bee-keepers learned in the law, who could very much help the craft if they would consider the matter and give their opinion as to the best method of dealing with this particular case. Mr. Rowell's suggestion of a compensation fund would, I am afraid, be a constant drain on our funds. The B.B.J. has a wide circulation and the non-technical public Press is ever on the alert for items of interesting news, so I fear if it became known that such a fund was established, and that compensation could be had for damage caused by bees, depend on it we should have to investigate a large number of claims. There is another way out of the difficulty; if one of the many insurance companies would allow beekeepers to insure against the risk of law proceedings; under this system the careful bee-keeper could secure himself against personal loss by paying a small yearly premium, as the chances would be small of any one fighting a strong insurance company. If there are any readers who are connected with insurance, they might tell us if this suggestion is practical.—W. WOODLEY, *Beedon, Newbury.*

BEES AS EMIGRANTS.

[4083] Enclosed herewith I send cutting from the *Daily Mail* relating to bees, which you may not have noticed.—C. M., *Wimborne, September* 15:—

"To Messrs. Donald Currie & Co.'s steamer *Tintagel Castle* must be granted the palm for the greatest number of refugees carried away from South Africa. Mysterious was their arrival, no less secret their departure.

"Leaving Cape Town on May 8, we noticed large numbers of bees flying around the ship, and one Sunday when in latitude 13 deg. south, 1 deg. west, from forward arose a swarm which, settling on a ventilator, completely covered it. Never before, I think, has there been so curious a place for swarming bees as a varnished ventilator on a ship in mid-ocean.

"We constructed a nondescript hive, and there content they remained for the next seven days. On the 20th we drew near to Cape Verde, passing about nine miles off, and going that morning to see our little colony found it flown. Surely instinct must account for the bees' quiescent state during the days when land was far off, and their sudden departure as we drew near the coast.

"We wonder how they will fare in the land of their adoption; will they be stronger than the natives of the bee world in those parts, or will war be waged against the intruders, and so exterminate them? Darwin accounted for the appearance of isolated members of a species totally unrepresented by others of their kind in the surrounding country, in many clever and accurate ways and reasonings. How he would welcome this straightforward case of voluntary migration!—E. H. SHACKLETON, F.R.G.S., 3rd Officer, ss. *Tintagel Castle.*"

NON-SWARMING HIVES.

[4084.] I should be very glad if any B.J. readers using these hives would give us the benefit of their experiences in working them during the past season, as I am sure there are many bee-keepers who would like to know whether they are practically as successful as the inventors claim them to be.—H. T. MARCH, *Horsford, Norwich, September* 17, 1900.

DEALING WITH FOUL BROOD.

[4085.] I enclose sample of comb which I believe contains foul brood. Kindly say whether this is so. I would also like your opinion on my method of treatment. I have four stocks, three of which have given me 160 lb. of honey and one swarm this season. On examining brood-nest in No. 1 I found fifteen cells as sample. I scraped out each cell, using a clean match for each, then mopped them out with solution of pure phenol, 1 in 10. (I used this strength in the hope that the bees will not use the cells again.) I am now going to put on rapid feeder with medicated syrup, and pour into combs syrup medicated with phenol. In No. 2 hive I found two or four cells bad, boiled the combs, and burnt frames. Now what is the use of taking these precautions when not 50 yards from my apiary a member of the Cambridge B.K.A. has foul brood and does not tackle it? His hives are in the most filthy condition, some standing empty, the bees having died out. I consider it a disgrace to the craft, and, I am afraid, have lost his friendship through remonstrating with him about it.

I place clean quilts twice a year in my hives, keep naphthaline in them, and medicate all food with naphthol-beta. I intended having a large apiary kept on strictly clean and scientific lines, but what is the use while there are such bee-keepers as the one I name? I rather think he will smile when he knows my bees are diseased, as he remarked that it would only be a question of time before they got foul brood.

Do you think it possible to start a national fund for the suppression of foul brood—say, if a small yearly subscription were paid to compensate bee-keepers for loss of stocks by burning after they were condemned by a qualified man? Surely something could be done in this line, as it seems we cannot expect the Government to do anything. We are behind the Continent in bee legislation, as in many other things, which I think shows want of "push" somewhere. I have taken the JOURNAL for two years, but have not seen this mentioned, and feel certain that it could be done.—"*Desperate,*" *Cambs.*

[Sample of comb was badly affected with foul brood. We do not think the method detailed an efficient one. The attempt to clean out diseased cells with matches, and placing of phenol solution in cells, would

neither destroy the spores nor prevent the bees using cells again. Best by far to take the affected combs away altogether, place bees on healthy ones in clean hive, and then feed as proposed.—EDS.]

Queries and Replies.

[2504.] *Robbed Stocks Joining the Robbers.*—You will, no doubt, have noticed an editorial in the *Daily Telegraph* of August 25 on the subject of bees. I see two facts mentioned therein which I have not noticed in the "Guide Book" or elsewhere, and would be glad to know if they really are "facts?" 1. "When a strong swarm invades a weaker hive and captures the honey store, the defeated bees after tremendous fighting will not only yield up the liquid gold of their treasury, but help the robbers to bear it away, and even go to live peaceably with the invaders." 2. "When two queens are contending in deadly hatred, if they get into a position which enables each of them to deliver the mortal thrust of her sting, they recognise the danger and instantly separate, lest, by mutual slaughter, the hive should be left queenless." I have myself visited the white marble rocks on the Nerbudda River in India, to which allusion is made, and seen the graves of two Englishmen drowned in the river when trying to avoid the stings of the numerous colonies of bees which they had irritated by firing a shot amongst them. In each case diving was resorted to to try to escape the assailants, but as soon as the head appeared above water a cloud of bees settled on it, and drove the unfortunate owner under water again.—A. F., *Uxbridge-road.*

REPLY.—So far as regards the "facts" connected with bee-keeping, the editorial referred to deals with them pleasantly and, on the whole, with fair accuracy from the *technical* standpoint. But when it comes to making a point of devoting space in the "Guide Book" to such matters as are included in the "facts" specified above, it would not only increase the size of the book beyond all proportion to the amount of good conveyed, but tend to complicate the subject of bee-keeping and confuse readers. Therefore, while fully aware that weak stocks (especially queenless bees) when attacked by robbers have been known, after some resistance, to join forces with the robbers and—shall we say—desert the old home for that of the marauders, yet this occurs so seldom as to do no more than show the "exception that proves the rule." This being so, we may look upon it in the light of the "poet's licence" when a literary man—who is not himself a bee-keeper—takes advantage of "facts," that even bee-keepers cannot deny, in adding to the readableness, so to speak, of an editorial such as the one referred to.

In brief reply to our correspondent's queries we may therefore say:—1. Without being well known among bee-keepers that bees have so little regard for the parent hive as to act in the way specified, instances do at times occur when "robbed" bees go over to the robbers in the way we have ourselves mentioned above. 2. Yes, it is understood that rival queens, when in mortal combat fighting for supremacy, do separate rather than cause the death of both. But such contingencies rarely occur.

[2505.] *Bees not Sealing Sections.*—I had a very large swarm the last week in May. I hived them in the usual way and put on a rack of sections, because I thought that with so strong a swarm the bees would soon be up in the super. I was right, they filled the ten frames and commenced work in the sections within a month. About a week after put on another rack underneath the first one, the sections in the latter being about three-quarters full. I did not look again for a fortnight and then found the top lot nearly full, but not capped; therefore, as the bees were hanging out I put on a third rack of sections between the under and the upper ones. This was about in mid-August, yet the top lot of sections are still uncapped, though the cells are full. I am in a heather district and the bees work well. Can you tell me why they will not cap the sections?—C. B. C., *S. Devon.*

REPLY.—The best course so far as regards getting the already filled sections sealed over will be to remove all but the one rack containing the sections referred to, and—after wrapping as warmly as possible to keep the super warm—trust to the heather for getting them completed. In any case, however, your swarm has done remarkably well in yielding surplus in so poor a season as this.

(*Queries continued on page* 370.)

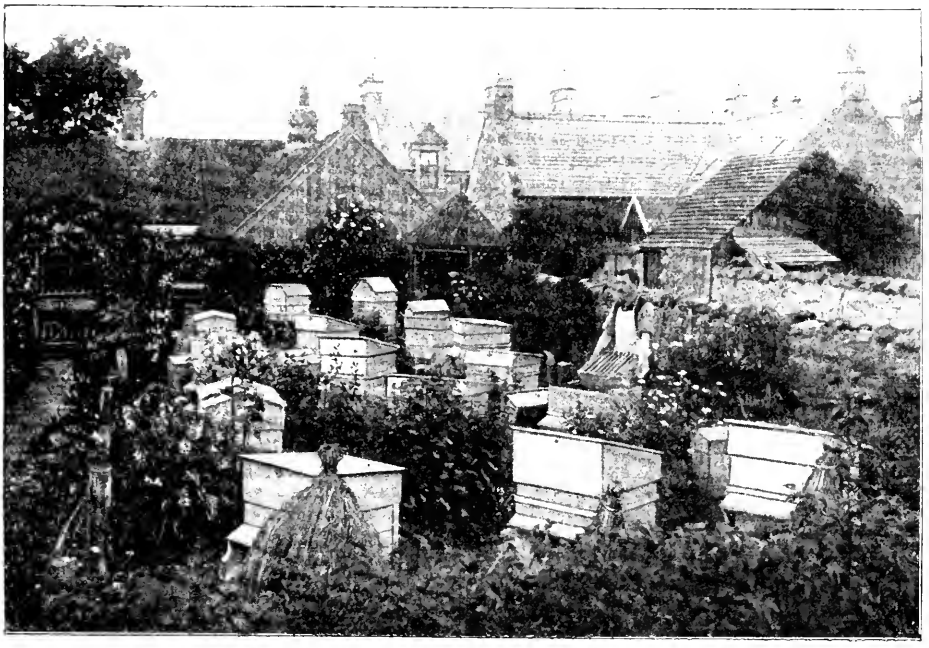
HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our Scotch friend, Mr. Wm. Leith, whose apiary is shown on next page, is one of the many bee-keepers who have given up skeps for the decidedly more advantageous frame-hive. His notes, written in response to our request, give so full an account of his bee-keeping experiences that we need add nothing, except to say how much we would regret to hear of his giving up a hobby which he has evidently found both pleasant and profitable. Mr. Leith writes:—

"I cannot say what first induced me to enter the ranks of bee-keepers. In the year 1892 a crofter asked me if I would buy a skep of bees (it was a top swarm) for 15s. I knew nothing about bees at that time, and well remember my disappointment when he told me that it would not do to take them home

until the end of the season, as they had been settled in the hive for some time, and his garden was very close to mine. When the proper time for moving came it was with fear and trembling that my brother and I went for the skep; we got it home safely and packed the bees snug and warm for winter. How I longed for next summer, and in imagination counted my swarms and honey, but, alas, both came far short of anticipation; indeed, I had to feed the stock constantly during the early part of the year with a feeder placed at the door of the skep. As the summer advanced my fear grew less and my interest greater; I often turned up the skep in the middle of a fine day to see how the bees were getting on. A swarm came off that season, but as I wanted honey, too, want of food in the middle of the summer, which has been a warning to me ever since to see that food is plentiful in hive at all seasons of the year. My brother after this disaster exchanged the hive for one of my swarms (it now stands in the corner near the summer-house, and is known as the 'hive in the neuck'). I stocked the frame-hive again, and the following year took 99 lb. of extracted honey from it; this successful result converted us both, and we replaced our skeps with frame-hives as fast as they could be made in our spare time. The hives in picture are all home made, the outer cases of most of them measuring 22 in. square, with a loose inside box to hold ten frames and two dummies; there are two 'Wells'' hives, but they have



MR. W. KEITH'S APIARY, STUARTFIELD, ABERDEENSHIRE.

something had to be done with the old skep. I had heard of 'driving' bees, and thought the plan much better than the brimstone pit, but my first attempt was a failure, as I tried to drive them *down* into the empty skep instead of up.

"Later on I got a bee-book by Pettigrew from an old skeppist, and it helped me greatly with the skep management, but a year or two later my uncle (who is a gardener and bee-keeper in the south of Scotland) paid me a visit. He believed in frame hives, which up to this time I had never seen, and he assisted my brother to make one, which was filled by cutting out the combs of skep and tying them into frames. This was the first frame hive ever used in this place, but the stock died for never done so well as two single ones, and are more difficult to handle. Lately I have made the alighting-boards of perforated zinc, which I think is an improvement, as the bees get a better footing in windy weather, and it dries more quickly after rain. The hives stand on gravel walks, although the foliage hides this in picture.

"I have always found great pleasure in looking after my bees, but now they have increased year after year till it is a case of how much £ s. d. can be got out of them rather than amusement, and with the exception of the first few years and the present one they have repaid me well for all the attention given to them. The year 1897 was the best I ever had, the average take being 60 lb., the

best single hive giving 103 lb., but taking it as a whole bee-keeping would pay quite well with an average of 30 lb. per hive. I get 8d. per lb. for extracted honey and 10d. for sections, and find extracted sells best. I once sent four hives to the heather, but it did not pay, so I now depend on the white clover for surplus honey, and when the bees are strong and the weather right there is plenty of it. The hive standing next the gate in picture is made of glass; it is filled each summer for a few months, as it is useful for showing to visitors or for rearing a young queen. There are also a few small hives I use for rearing queens, which, I think, is the most interesting part of the craft. I do not believe in keeping queens more than two years; it sometimes happens that I have some older, but they never do so well.

"My chief instructor in the management of frame-hives has been Cowan's 'Guide Book,' and I have also got some good 'tips' out of B.K. RECORD; indeed, most of my bee-keeping knowledge I owe to them. I wish I could say I have never seen foul brood. It broke out in a mild form in the apiary this season, but I am doing my best to stamp it out; if I succeed it will be all right, but if I fail there will be one bee-keeper less, for I would not like to keep bees if not healthy.

"I have nothing original to say about my management. I use nothing but standard frames now, and would advise any beginner who intends to keep a few hives to start with them; they are neater and cheaper than those one can make oneself, and save a great deal of trouble by being exactly of one size. I slightly alter all the 'W.B.C.' ends I use by making two cuts with a chisel and bending the centre piece with a pair of pliers. This makes a projection of about ¼ in., which rests against inside of hive; it prevents crushing bees when scraping top of frames, and is more convenient when lifting them out (I enclose one for your inspection, as I cannot describe very clearly). I double the very strong hives early in the season. They all have ventilators at bottom, which are left open for a short time in the hot weather.

"I used to pack around body-box for wintering with chaff pads, but last year I had not enough, and found next spring that the hives with packing on *top only* were drier and better than those packed all round. My hive roofs are all covered with zinc, which I find beneficial in keeping out rain, though a dampness gathers after frost. I am troubled with earwigs about the quilts, and though I do not think they harm the bees, it looks bad to see them running by the hundred when opening a hive. If any reader has got a perfect cure which is not very troublesome to get at I will be glad to hear of it. I use excluders on all my hives, as I think it better than running the risk of having brood in supers.

"I may mention that I am a saddler by trade, and the apiary being situated at the back of my place of business I can attend to it on the shortest notice. My brother is in the same line of business, and owned half-a-dozen of the hives, but this summer he went to America, and now I have rather too many to manage in my somewhat limited time. I have no trouble in selling all the honey I can get."

QUERIES.

(*Continued from page* 368.)

[2506.] *Removing Fixed Combs from Frame-Hive.*—Last year I had a swarm when unprepared for it. I put the bees in a hive with only four frames, two on each side, with a large vacant place in the middle, intending to fit foundation in remaining frames and complete the full number on following day. Unfortunately, however, I was unable to spare a moment for some weeks, and when at last I looked at the bees I found they had joined the combs to the hive-sides; so, very stupidly, I put on a rack of sections and left them alone. This year I find the frameless portion of the hive full of fixed comb, as I might have known it would be, and therefore ask—Is it possible to cut out the comb and fill up with foundation now, or would it be better to leave the sections on and let it remain as a fixed comb-hive? I cannot take away the rack of sections without removing the comb from the hive, for it is built on it.—W. B. H. G., *Hampton-on-Thames.*

REPLY.—There is no other plan of overcoming the trouble, brought on by faulty management, than cutting away all combs attached to the hive-sides preparatory to tying them in frames if straight and suitable. It will also need the greatest care in severing the trace-combs below the bottom bars of section-rack prior to removing the latter. In fact, if the services of a practical bee-keeper are available we strongly advise that such help be secured; for our correspondent must pardon us in saying that the want of forethought shown in the past hardly gives us confidence in his management of difficult bee-operations such as are involved in the task of getting the hive referred to into workable order.

[2507.] *Bees in a Hollow Garden Wall.*—I beg the favour of your advice. This year I brought a stock of bees in a frame-hive and also purchased a new hive; the lady I bought the bees from came and transferred them to the new hive; later on the stock sent out a good swarm, which settled close by on a small branch of a cherry tree. Unfortunately, however, the branch broke before I was ready for hiving the bees, and after taking wing again they settled on the garden wall, which happens to be hollow and built of bricks set on edge, with a space of 5in. or 6 in. in the centre of the wall. In this hollow wall the bees have made their home, the entrance being a hole at the joint of a brick where the

mortar has given way. I rather think the swarms were subsequently divided into two lots, as I observed they were very busy at two different parts of the wall at places 8 ft. apart. I took out a brick close to one of the entrances a little time after they swarmed, and found there was a large comb drawn out. After replacing the brick I made a hole nearer for the further lot, but they do not make use of it. 1. Do you think they have divided? There was, I believe, a swarm in this hollow wall before. They have been very busy all the summer. 2. Can I do anything with them? I am afraid I shall not do much good with the bees in the parent hive, as it seems evident I have not used them rightly. I had on a section-rack for a few days before they swarmed, but they did not make any use of it, so I tried to find out why they would not work in it. Putting on a pair of chamois leather gloves and a veil I removed the section-rack, and lifted out the frames one at a time to see if I could find a queen-cell. I had no smoker or anything to quieten the bees with, and after lifting a few frames one stung me through the glove; in less than a minute I got over forty stings in my hands. I replaced the section-rack as quickly as I could and left them till the evening, then went to look at the hive and put on the wraps, but found the bees could sting in the dark so I retreated, and they are without the wraps up to date of writing. I lifted up the roof last week, and found a lot of bees all over the hive. 3. What can I do in order to put on the wraps? I have about an acre of garden with a good many fruit trees, and I got the bees more for the fruit than for profit.—F. Dowell, *Forest Hill.*

Reply.—1. It is fairly certain that there has been no division of the swarm, so it may be regarded as one colony. 2. Unless the brickwork can be removed, and the combs exposed for cutting out and removal, the bees must perforce remain where they are. 3. By giving a little smoke from a proper bee-smoker you will have no difficulty now in getting the coverings replaced and all wrapped warmly for winter, as the bees will have quieted down by end of the present month.

[2508.] *Drone-breeding Queen.*—On examining a weak stock of bees, I find the queen (which is one recently reared by the bees themselves) has deposited two distinct eggs in each of several cells. I also note that there are two sealed cells side by side—ordinary worker-cells—which project fully twice as much as any of the other sealed brood. 1. Would this be that two eggs have developed into two larvæ in the same cell, and is it probable that both will emerge in due course? 2. Can you give reasons for the queen depositing two eggs into the same cell?—"Beien," *Oxford.*

Reply.—1. The unduly projecting capping of brood described shows that drones are being reared in worker-cells. This being so, the young queen has not mated and is in consequence worthless as she is a drone-breeder. 2. The abnormal depositing of eggs, two or more in a cell, also points to the weakness of the stock and worthlessness of the queen. The colony must, we fear, be regarded as of no value.

Echoes from the Hives.

Cowbridge, September 8.—I am sending you a few lines from here again. I have taken off all my honey in time to look through the brood nests to see how the bees are situated as far as food is concerned for the winter months. Out of eight stocks I find I will have to feed seven. Several of them had only small patches of sealed honey about the size of the palm of my hand, but they were full of sealed brood and when this has hatched out the combs will be practically empty of stores. Bee-keepers should carefully attend to the brood nest this year, as I found two other apiaries I visited in the same condition. I am looking after two hives at a farm about two miles from here, and supered them during the first week in June, placing one super on each. A fortnight later I put another super on No. 1 and left them until August 15, when I took them off again. I found that No 1 had fourteen well-filled and sealed frames of honey, and No. 2 had eight frames of sealed honey, which, considering that the bees had also to work out five and six frames of foundation respectively in the brood nest, I do not think at all bad. I also look after a Conqueror hive stocked with the most nasty tempered bees I have ever had anything to do with. I found that they build comb on both sides of the hive, in fact anywhere and everywhere, and it took me quite half an hour to try and loose the supers by tugging and screwing. However, I got them loose at last, but the bees were furious. I replaced the super clearer on the hive and left it, but could not quieten the bees, and for ten minutes or more they kept me lively. No more Conqueror hives for me. As I was going through the town of Cowbridge on Wednesday, September 5, I saw a swarm of bees on a telegraph pole in the street; is this not rather unusual time for a swarm?—R. Morgan.

Terrington, St. Clement, Lynn, September 17.—I have been too busy even to write a short paragraph lately, so I will now send what should have been two or three echoes. First, as to bee-flowers, I noticed in July that a bed of *Clarkia intergripetela* was well visited by the bees, as was also a row of *Malva moschata alba.* I have both white and blue echinops, and whereas the former is evidently a good bee-plant, the latter was not to my knowledge visited by the bees at all. Of

course, there were always plenty of them busy on the mignonette, and now the opening blossoms of the various types of Michaelmas daisies claim their attention. With respect to the quality of the honey, I find it is all very good; the earliest extracted is quite white, the later lots being an amber-colour of good flavour, though the quantity gathered is small. Two or three hives will need syrup-feeding to pass the winter safely. A large quantity of mustard is grown here, but we had high winds and dull days while it was in bloom, so the yield was small. Last year I gave my experience of marketing honey; I then sent it to flower salesmen, and made 8s. per dozen (less carriage and commission). This year I have attended Lynn produce market with flowers, and have placed a dozen bottles of honey in the centre of the stall. By this means I have disposed of 120 lb. retail, at 10d. per lb., and there appears to be such a demand that I shall be advertising for extracted honey very soon. I have driven nine skeps of bees this autumn, and united two skeps together. I provided them with fully-drawn-out combs, and fed rapidly—that is, gave them about 2½ quarts of syrup daily from one of "Meadows'" rapid feeders. The stock formed from the two skeps was examined after five days, and I found three combs of brood and eggs and five combs covered with bees. I had one colony completely spoiled by robbing on August 11; all the stores were abstracted. I have since united it with some driven bees, and intend to feed during the coming week.—W. Belderson.

THE IMPORTANCE OF WATER FOR BEES.

In the higher animals, water, next to oxygen, is the largest food factor in the animal physiology. When we consider the work that water does in the animal economy, we do not wonder at this. Water makes up the large proportion of all the tissues of the body. I have seen the statement that water makes up one-twelfth of the teeth, and it is true that some of the liquids of the body, like the saliva, are almost entirely made up of this liquid—995 parts of every 1,000 of the saliva are water. The animal, then, needs water to form its very substance.

Again, all the functional activity of the body as absorption, circulation, assimilation — requires that all the elements concerned in the operations be in solution. We all know that water is nature's great solvent. Water is what keeps all the nutrient substances of the body in solution. Water serves plants also in the same way. Plants are not only composed largely of water, but water holds the food elements of the plant in solution, and so we see why plant and animal alike thirst for water.

Animals possess another function that requires much water to carry it on. As this function is very essential, even necessary to life itself, we see another reason why water must never be stinted if good vigour is to be maintained. I refer to perspiration. We know just how much heat is generated in the body in an hour, and we know that a rise of a few degrees of heat is fatal. Both of these differ in different animals. It is found that, on an average, man generates heat enough to kill him in between three and four hours, were there not some way to cool him off. Perspiration is the way that this cooling off is done. There is a tremendous heat-producing engine in the body. The heat comes from what is called destructive metabolism or katabolism. These terms refer to the tearing down of tissue, consequent upon the work of the body.

Most animals get water in all their food, much of which, as is true of many fruits and vegetables, may contain over 90 per cent. of water in their composition. Bees are less fortunate in this respect than are most animals, as there is not a very large amount of water in either honey or pollen. It is probable that bees need a very large amount of water. They have tissues like other animals, which, as we have seen, are largely composed of water. Their food, like that of other animals, must be in solution to be available. They are very active, and this implies very rapid metabolis. We have seen that metabolism is the source of animal heat, and we do not wonder that bees soon warm up when anything disturbs the heat equilibrium of the body.

Is it not more than probable that bees must profit by the mechanical aid which comes from evaporation of water from their bodies? I see no reason to doubt the truth of this. Who of us has not seen the wet, sticky mass when the hives have been shut up on a hot day so that the water could not pass off. The bees can not ventilate the hive, and the water of respiration, which at such times becomes very rapid, and of perspiration can not pass off, and we soon have a forbidding mass of dead bees and water, which becomes more and more gruesome, until death ends all.

We know how we suffer on a hot day when the air is loaded with moisture. This moisture in the air is unfavourable to evaporation, and the cooling process is stayed. We are very much favoured in this matter in Southern California. The air is almost always dry when it is hot, and the evaporation from the body is so rapid that we do not feel even intense heat. I have known men to shingle houses when the mercury was over 100 deg., and they seemed to feel no inconvenience. At such times a person may plunge into an irrigating ditch, and in a very short time his clothing will be entirely dry. Dry air must be around us to permit this grateful evaporation. Do not bees ventilate the hives on a hot day as we fan ourselves, and as the dog extends its tongue to promote this evaporation and so cool off? As bees do not get as

much water in their food as do many other animals, and as they are very active, and must be cooled off by excessive evaporation, we readily see why they need much water, and why they repair to the rill and pool when work is great and weather is warm.

Of course, bees are most active in warm weather, and then for two reasons they need much water. When the weather is very warm we are usually more quiet, and so do not need to do so much cooling off, and do not evaporate so much water from respiration and perspiration. If the weather is very hot, and we must perforce work hard, then we breathe fast, sweat much, and must drink great draughts of water to supply the needs of the blood. The water is passing very rapidly from the blood, and must be as rapidly supplied. Bees are hard at work on the hottest days, as then is their harvest, and so they must have great quantities of water to supply their pressing needs.

I doubt, then, if it is correct to say that bees need water to aid in brood-rearing. When they are very busy gathering from the field, then brood-rearing is very active, and as the bees are at hardest work they need to do very great cooling off, both because of the heat and the activity, and so must have much water. In case we have a protracted rain-storm, the bees do not stop brood-rearing, but do stop the active gathering in the field. They stop gathering water perforce. If water was directly necessary in the work of brood-rearing, then rearing brood would stop at all such times, which is not the case. Pollen or bee-bread is necessary to brood-rearing, and when there is no pollen then brood-rearing ceases.

I think that we are safe, then, in holding that water is necessary in the nutrition of the bees, and in regulating the bodily heat. It is more important when the bees are very active, and so in hot weather, when bees are most active in the field, then it is that they need most water. It is not likely that they use the water directly in rearing brood, but as brood-rearing is usually most active when the bees are at full work, it is a pretty sure indication of the amount of water needed by the bees. Water is, without doubt, very necessary, and so should always be supplied when the bees cannot get it near the apiary. In winter the bees are so quiet that this need is fully met by the water in the honey, which is the main, if not the entire, food of winter.—Prof. A. J. Cook, in *American Bee Journal*.

Bee Shows to Come.

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.** Schedules now ready. (See advertisement on page v.) **Entries closed.**

September 29, at Jedburgh.—Annual Show of the Roxburghshire B.K.A., in the Church Hall, Queen-street. Twenty-four classes for honey, &c. Schedules from Thos. Clark, Secretary, Pleasants, Jedburgh, N.B. **Entries close September 25.**

October 9 to 12, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries closed.**

November 15 at the Town Hall, Ludlow, in connection with the sixth annual exhibition of the Chrysanthemum and Fruit Society. Two open classes for sizes. Schedules, &c., from Jno. Palmer, Hon. Sec., Ludlow. **Entries close November 6.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. T. Mills (Burham).—*Driven Bees Deserting Hive.*—1. The bees appear to have objected to the smell from the newly-painted hive, which you say only received its "last coat of paint" two nights ago. We can afford no other explanation from the material before us. 2. Not absolutely necessary, but sometimes advisable.

Mrs. F. Douglas (Inverness).—*Introducing New Queen into Queenless Stock.*—If you are quite sure that the stock is queenless and that the bees are strong and healthy, there is no difficulty in introducing a new queen. It is quite safe to buy from respectable dealers. We should advise the stock be re-queened without delay now.

G. M. S. (Keswick).—1. *Artificial "Comb-honey."*—The story about artificial comb-honey being produced largely for sale to unsuspecting consumers is now regarded in the light of ancient history, and we do not care either to reproduce press-cuttings tending to prolong the life of such absurd statements or to occupy space in refuting them. There has been, we believe, for some years past the good round sum of a thousand dollars awaiting the man who can "manufacture" a sample of sealed "comb-honey" produced without the aid of bees, and, so far as we can learn, Mr. A. I. Root, who made the offer, has yet had no claimant for his prize. 2. We may also dismiss as unworthy of notice the American "yarn" you send about the honey-gathering bees that "never saw a flower and would shy at a honeysuckle if it came near one."

Suspected Combs.

T. H. (Canterbury).—All samples sent are badly affected with foul brood. With regard to the white substance mentioned in your letter we can only surmise it to be the young pearly-coloured larvæ. In an affected stock this larvæ would be liable to become diseased.

Anxious Bee-Man.—Comb is affected with foul brood.

T. K. (Canterbury).—Comb contains nothing worse than pollen.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

PURE EXTRACTED HONEY FOR SALE. Sample, 3d. D. HANCOX, Deddington, Oxon. B 91

WANTED, DRIVEN BEES; exchange Photographic Sundries. NEWMAN, 57, Coldharbour-lane, London, S.E. B 94

BEES.—FOR SALE, 12 HIVES; sold because owner leaving country. HORRELL, 4, Craig-street, Peterboro'. B 95

DRIVEN BEES, direct from the moors, 3s. 6d. per lot, empty returned; cash or deposit. BOYES BROS., Ryegate, Helmsley. B 90

FOR SALE, 500 lb. excellent light EXTRACTED HONEY. Sample and price, 3d. BARNES, Burwell, Cambs. B 89

SPLENDID ENGLISH HONEY, 60s. and 50s. per cwt. Sample, 2d. Cash or deposit. ALBERT COE, Apiary Hall, Ridgewell, near Halstead, Essex. B 88

PURE ENGLISH HONEY, 6d. lb.; second quality, 5d. Cash or deposit. Sample, two stamps. A. TWINN, Apiary House, Ridgewell, Halstead, Essex. B 87

FOR SALE, two strong STOCKS with stores, 27s. and 30s. Deposit system if preferred. MASON, Limes Grove, Lewisham. B 86

SIX dozen good SECTIONS, 40s.; 56-lb. tin Extracted, 30s.; tin included. HARBOR, Isington, Alton, Hants. B 84

FINE 1900 FERTILE QUEENS, 3s. 6d. each, per return post. Guaranteed healthy, safe arrival, and introduction. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. B 85

WANTED, new CLOVER HONEY; also Heather, 1 lb. sections, not dark; clean, well filled, and sealed. Any quantity delivered for cash. M. CHARLTON, 42, Fawcett-street, Sunderland. B 92

STRONG healthy STOCKS BEES, fully stored for wintering, 21s. Strong 3-comb Lots (2 combs brood) Queens, July, 1900, 12s. 6d. CARR, Norwood-avenue, Southport. B 83

MANX HEATHER HONEY of good quality, packed in strong tins, 28 lb. at 6½d. per lb.; tins free; 1lb. sample, post free, 6d. LANCELOT QUAYLE, Glenmay. B 82

IF YOU want good value, buy healthy DRIVEN BEES, on brood-combs, 4s. per lot. Orders booked in rotation. Exchange for Bee Appliances. W. H. BROWN, No. 1, High-street, Shrewsbury. B 97

PARTNER WANTED, non-active, in profitable Bee Appliance, Country House Requisites, and Honey Selling Business. Additional capital required for further development. Excellent opportunity for lady or gentleman requiring small investment. Particulars from R. R., *Southern Echo* Office, Bournemouth. B 93

FOUR STOCKS healthy BEES, eight frames, fed up in make-shift hives, 15s. per lot. A. R. MORETON, Leigh, Worcester. B 68

ONE BEE-KEEPER'S Complete OUTFIT FOR SALE, cheap. Guaranteed. GUTHRIE BROS., Alloway, Ayr.

NAPHTHOL BETA solution in 8-oz Bottles, with direction, 1s. 2d., post free. GUTHRIE BROS., Alloway, Ayr. A 44

"W.B.C." HIVES and FEEDERS.—Make your own at third the cost. For particulars send stamped addressed envelope. PRIDEAUX, Whitchurch, Salop. B 42

CHOICE 1900, Autumn-raised, fertile QUEENS, 3s. 6d. post free, in introducing cages with instructions. Driven Bees, 1s. lb. Box free. EDWARDS, "Beecroft," Ashford, Staines. B 80

FINE EXTRACTED HONEY, 50s. cwt.; 3 cwt. carriage paid; tins extra (returnable). Put up in 1-lb. screw-caps, 8s. per doz. W. J. GARNER, Dyke, Bourne.

WANTED, any number Hornets, Queen Bees, Common Water Newts, Paper from Wasps' Nests, Humble Bees. T. BONNER CHAMBERS, Diptford, South Brent, South Devon. B 54

Prepaid Advertisements (*Continued*)

24TH YEAR.—SWARMS, with young tested Queens, 5s. 6d. Cases free. Tested young Queens in introducing cages, 3s. 9d., free. ALSFORD, Expert, Blandford. B 58

STRONG STOCKS of BEES in standard size hives, take eleven frames, made with two body boxes for tiering, lift and roof, the hive alone worth the money, 21s. each. R. ILLMAN, Florist, Strood. B 79

CHOICE young QUEENS, tested. I have a few to spare, and can send by return post; safe arrival guaranteed; 2s. each. A. J. CARTER, Billingshurst, Sussex.

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 7s. 6d.; ten dozen, 16-oz., 13s. 6d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

GUARANTEED 1900 PROLIFIC FERTILE QUEENS, in perfect introducing cages. Safe arrival guaranteed. Post free, 2s. each, strictly enforced. SPEARMAN, Colesbourne, Andoversford. B 21

FINEST PROLIFIC QUEENS, post free, 5s. Safe arrival guaranteed. Queen-rearing a speciality for thirteen years. Every stock healthy. Rev. C. BRERETON, Pulborough, Sussex.

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

STRONG Transplanted LIME TREES, 7 feet high, 12s. per doz.; special quotation for quantities; also finest selected 1-lb. SECTIONS, 8s. per doz.; slightly dark, 7s. per doz. W. BURDEN, Nurseryman, Mere, Wilts. B 64

PROLIFIC QUEENS.—Imported Italians, 6s.; Carniolans, 6s. 6d.; Home-breds, 5s.; Black, 3s. each. Nuclei, with queens of any variety. Swarms and Stocks. 23rd Year. E. WOODHAM, Clavering, Newport, Essex. B 59

FOUR strong STOCKS in straw skeps, 1900 queens, 12s. 6d. Guaranteed healthy. Driven Bees, 1s. lb., with fertile queen. Strong 4-Frame, Nuclei, Fertile Queen, 11s. 6d. 1900 Fertile Queens 2s. 9d. Cash with order. WOODS, Normandy, Guildford. B 44

BEE GLOVES, 2s. 2d. per pair; 2s. 10d. per pair with holland gauntlets attached; post free; state size required. Recommended by the Rev. W. E. Burkitt. Special terms to wholesale buyers. EDWARD REYNOLDS, Glove Manufacturer, Andover.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2⅞, 3, and 3⅛ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 9d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

FOR SALE, BEES, HONEY, HIVES, and APPLIANCES,
New and Second-hand, Cheap.
SPECIALLY CHEAP, well-made HIVES, catalogue price (new) 24s., for 18s. to effect a speedy sale.
H. N. BAXTER, Sedbergh, R.S.O., Yorks.

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Complete Illustrated Catalogue of BEES, BEE-KEEPING APPLIANCES, and HONEY PLANTS (contains also Chapters on Queen Introduction and Wiring Frames, with useful Recipes and other Information), price 2d. post free.

F. SLADEN, RIPPLE COURT APIARY, NEAR **DOVER.**

Editorial, Notices, &c.

THE GROCERS' EXHIBITION AND MARKET.

ANNUAL SHOW AT THE AGRICULTURAL HALL.

The fifth annual Exhibition and Market of the Grocers and Allied Trades, which opened at the Agricultural Hall on Saturday, the 22nd inst., will prove not only instructive and educational for members of the several trades concerned, but interesting to the general public, the whole of the great hall, together with the galleries and annexe, being occupied by exhibits connected with the trades for which the Exhibition is organised. So far as regards the particular section of the show in which our readers are specially interested, it is greatly to be regretted that the adverse honey-season of the present year should have so affected the number of entries as to considerably diminish the display of bee-produce we hoped to see staged. It does, indeed, seem a strange thing—when bee-keepers are (often justly) complaining of the trifling sums offered as prizes at honey shows—to see only fourteen entries in a class for "Twelve 1-lb. Sections" with four prizes, the respective value of which is 1st, £3 (with B.B.K.A. Silver Medal and Diploma); 2nd, £2 (with B.B.K.A. Bronze Medal and Diploma); 3rd, £1 (with B.B.K.A. Certificate and Diploma); and 4th, 10s.

Of course, our bee-keeping friends may retort by reminding us that the above was confined to "master grocers only;" but what about the trophy-class, with four prizes of equal value, and only two entries? Here was an exceptional chance of securing an award by those not so "high up" in prize-winning as our best-known exhibitors, because all winners in the previous show—held a short time before in the same hall—were debarred from taking prizes at the one under notice; yet, as we have already said, there were but two entries for the four prizes.

Fortunately the capital trophies staged by Mr. Woodley and Mr. Kirby were supplemented by those of Messrs. Jas. Lee & Son and Mr. Greenhill, which took 3rd and 4th prizes at the "Confectioners'" Exhibition, but were debarred from competing in the present one. These helped to make the whole display more complete.

We mention this in order to let the Directors of the Exhibition know how entirely it was due to the bad season that so few exhibits were staged. The comb and extracted honey shown was, however, in every way admirable in quality, and the total entries for both made up a good display; but we hope next year to see double or treble the amount of space occupied with good British honey, so that the generous way in which bee-keeping is supported by those in authority may be illustrated by a big display of exhibits, and a full appreciation of the good done to the craft in establishing such a splendid market for bee-produce as that open all this week at the Agricultural Hall.

Messrs. W. Broughton Carr, R. Hamlyn-Harris, and Ernest Walker officiated as judges in the honey section, and made the following awards:—

HONEY TROPHY CLASS (OPEN TO ALL BEE-KEEPERS).

Display of Honey and Honey Products (in suitable form for a Tradesman's Window).—1st (£3 and Diploma), Wm. Woodley, Beedon, Newbury, Berks; 2nd (£2 and Diploma), G. W. Kirby, Longwell Green, Bristol; 3rd and 4th (not awarded).

HONEY CLASSES FOR MASTER GROCERS ONLY.

Twelve 1-lb. Sections (14 entries).—1st (£3 with B.B.K.A. Silver Medal and Diploma), E. J. Burgess, Camp Stores, Compton, Newbury; 2nd (£2 and Diploma), R. Barber, Marlow-road, Bourne End; 3rd (£1 and Diploma), J. W. & W. W. Walker, Oxford-street, High Wycombe; 4th (10s.), C. Knowles, Bartholomew-street, Newbury; v.h.c., H. Sherwood, Bridge-street, Andover, Hants, and F. Chapman, Southover, Wells, Som.

Twelve 1-lb. Jars Extracted Honey (26 entries). — 1st (£3 with Bronze Medal B.B.K.A. and Diploma), C. K. Fry, Stockbridge, Hants; 2nd (£2 with B.B.K.A. Certificate and Diploma), G. Young & Son, High-street, Andover, Hants; 3rd (£1 and Diploma), J. W. & W. W. Walker, Castle-street, Wallingford; 4th (10s.), E. Knowles, Bartholomew-street, Newbury; v.h.c., H. Sherwood, Bridge-street, Andover, Hants, F. Briden & Son, Stevenage, Herts, Clark & Reardon, Victoria-street, Old Swindon, and F. Chapman, Southover, Wells, Som.; h.c., E. J. Burgess, Camp Stores, Compton, Newbury, Berks, and John Parkin, The Sands, Appleby; c., R. Wakley, Wimborne-road, Winton, Bournemouth; R. Barber, Marlow-road, Bourne End, Bucks, J. W. & W. W. Walker, Oxford-street, High Wycombe, and J. Edwards, Well-street, Callington, Cornwall.

NORTHUMBERLAND AND DURHAM B.K.A.

AN EXCURSION TO THE MOORS.

Whatever disappointment members of the Northumberland and Durham B.K.A., in common with bee-keepers generally in the North of England, have suffered this season in regard to the results of the "heather harvest" it was certainly not to be gathered from the demeanour of those of them who joined in the annual excursion of the Association to Edmundbyers on Saturday, the 1st inst. On the contrary, there was quite an air of cheerful gaiety about the brakeload of members and their friends who made the journey from

Shotley Bridge to the moors in the afternoon. The nearness of the rising heatherclad moorland some distance away is indicated by glimpses, here and there, behind a sheltering wall, of rows of hives. But there is no insect life on the wing. The wind is too "nippy," adding still another to the already long list this season of days of enforced idleness for the bees. With the exception of about one week of undoubted fine weather, the rain, cold, and wind had been dead against the prospects of a good yield of heather honey this year up to date of the "outing," but given fine weather during the remaining time much might still be done to make good the deficiency, for there is still an abundance of heather bloom. This year there is a considerable increase in the number of hives which have been brought to Edmundbyers, the total being estimated at between 500 and 600. Those visited by the members of the Association on the occasion referred to lie a little beyond the village, on the very edge of the heather, and an inspection of them confirmed the anticipations formed. Before the return journey the party sat down to tea at Harehope Hall, sampling a section of heather honey fresh taken from one of Mr. Kidd's hives. Afterwards a brief and informal talk on bee matters took place, Mr. J. W. Wakinshaw, hon. treasurer, being voted to the chair. Amongst others present were Mr. James Waddell, the hon. secretary—who had journeyed all the way from Wooler to join in the excursion—Messrs. J. N. Kidd, T. Gardner, J. J. Weighall, H. Weighall, and George Rochester.—(*Communicated.*)

THE BASINGSTOKE BEE-CASE.

COMPENSATION FUND.

In response to our suggestion that a fund be started to compensate Mr. Longley, the defendant in the "Basingstoke Bee-Case," so far as assisting him to bear the burden of the adverse verdict of his Honour Judge Gye, we have received the following donations, and will be glad to include any further sums, however small, sent by readers for the same object, which will be duly acknowledged :—

Amounts Received :—	s.	d.
BRITISH BEE JOURNAL	10	0
H. Elliott (Trowbridge)	5	0
H. Rowell (Hook, Hants)	2	6
Miss Saxelby (Birmingham)	2	6
Anon	2	0
J. H. Horn (Bedale)	1	0
March Bee-keepers and Friends :—		
Miss Powell...	2	6
H. Hill	1	0
O. Crisp	1	0
F. Wise	1	0
H. T. Wright	1	0
T.Godfrey, L. Shaw, F. Cox, and J. Woodhouse	1	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

BEE-APPLIANCES AND HONEY AT THE PARIS EXHIBITION.

[4086.] Having visited the Exhibition twice this summer, I had a full opportunity for a good look round amongst the different exhibits of honey, wax, and bee-keeping appliances, and thought that a brief description of what I saw might be interesting to readers who were unable to visit the Exhibition.

The first honey display I came across was a splended show of section and extracted honey sent by Canada. The sections were four-piece ones, with bee-way top and bottom only, filled with beautifully white and even combs ; the extracted honey ranged in colour from almost white (yielded by the basswood blossoms) to various darker shades from other sources. I should have liked to sample some of the different kinds of honey, but, fortunately perhaps, "tasting" was not allowed, or I expect Canada would have had to ship a fresh supply over considerably before this time.

Amongst the most prominent exhibitors of Canadian honey were the Goold, Shapley, & Muir Company, of Brantford, Ontario, who exhibited extracted honey rather dark in colour. The "Experimental Farm," Brandon, Manitoba—this firm's extracted honey was nicely "put up," but also of dark colour. Mr. Wm. McEvoy (Foul-brood Inspector for Ontario) also showed some good extracted honey, which closely resembled that from our English white clover. Nearly all the extracted honey staged had begun to granulate, some being set quite hard, and that from basswood looked almost pure white when granulated.

The packages used for sending extracted honey by rail are open-slat cases, holding two or more tins. They are made very strong, but too heavy for this country, where weight has so much to do with freight charges.

Neither the United States nor England had any show of honey whatever, which to my mind was a matter for regret, especially as we in England are so close to Paris. It was therefore left to Canada to represent the English-speaking race in the matter of showing honey at this great Exhibition.

The A.I. Root Company, of Medina, Ohio,

had a collection of bee-appliances, consisting of dovetail hives and other bee goods. These hives, however, are, in my opinion, not suitable for our cold winters. They also had a very good display of their well-known "Weed" foundation. The Falconer Manufacturing Company, of Jamestown, New York, also had a good collection of hives and appliances. Messrs. Dadant & Son, Hamilton, Hancock Co., Ill., U.S.A., the well-known foundation makers, had a very fine collection of their different foundations, chief amongst them being made by the "Weed" process.

The several French beekeepers' societies had fine displays of honey both extracted and in comb. Among the exhibits of comb-honey were numerous designs worked out in comb by the bees, in preparing which the French beekeepers appear to be very clever. The Société d'Apiculture d'Aisne were awarded the Gold Medal in this section for a fine display of sections and honey-comb designs, some of which looked very beautiful. The honey, however, was nearly all granulated, and some of the comb-honey had already begun to "weep," which gave it a rather greasy appearance. Among honey-beverages *hydromel* was much to the fore, neatly put up in white glass bottles, which looked well and gave it a fine appearance. Beeswax was also largely shown, but the colour was rather red. The "Société Centrale d'Apiculture" had a big display of honey and beeswax, and here again the honey-comb designs were very much in evidence. The Société d'Apiculture de la Savoie staged a display of rather dark honey and a most complete collection of honey-producing plants, many of which could be easily recognised as common in England.

Belgium was also well represented in honey, wax, and hydromel, a very good display being made. Amongst the French appliance makers and dealers were MM. Raymond Gariel, of Paris (who was awarded the gold medal for a fine collection of hives and appliances), L. Robert Aubert, à Saint-Just-en-Chaussée (Oise), M. Aubert being awarded the silver medal for a very good display of appliances, amongst which were several useful contrivances for handling frames, moving hives, &c. Taking the French exhibits all through, their honey did not look so nice as that which may be seen at some of our large shows in this country. The appliances also appeared to me rather awkward to handle, a great drawback being the numerous sizes and different forms of hives and frames in use which entirely prevents interchanging and does harm in many ways.

The International Congress of Bee-keepers, held in the Exhibition grounds on September 10, 11, 12, at which I was enabled to be present, appeared to be a great success, judging from the large number of delegates who attended from nearly every country, Great Britain standing almost alone so far as being unrepresented by an official delegate. Amongst the delegates were Mr. J. T. Calvert, of the A. I. Root Company, Mr. Chas. Dadant, and L'Abbé Bedé, a prominent French bee-keeper whom I had met in Antwerp in 1894 at the exhibition held there in that year. The various questions discussed show that our Continental neighbours study the points of bee-keeping in a most scientific and thorough manner, whilst they foster and encourage bee-keeping to a considerable extent.

I was fortunate in meeting Mr. Dadant at the Congress, who kindly explained what was going on. The Congress finished up their meeting with a banquet in the evening and a trip out to Fontainebleau next day. The nex Congress, I think, is arranged to be held in 1903 in Holland.—E. H. Taylor, *Welwyn, Herts.*

"PROPOLISIN" AND PROPOLIS.

[4087.] Referring to the mention of "Propolisin" in this week's issue of your highly interesting B.B.J. under "Reviews of Foreign Bee-Papers" (page 365), I would ask: Is anything known in this country of "Propolisin?" If there is, I shall be glad to learn all about it, and so, I dare say, will many of your readers.

Only a few days since I read somewhere that propolis was a bee-production which had no value except to the bees themselves. I forget where I read it, but I noted the fact and passed it over.—T. L. Reeves, *St. Katherine's Bourne, Shenley, Herts.*

[We are hoping to have some further information regarding the substance referred to and so named by its "inventor" from our esteemed contributor, Mr. R. Hamlyn-Harris. Meantime we are not very clear as regards the analogy between "Propolisin" and the propolis of the bee-h ve.—Eds.]

NON SWARMING HIVES

[4088.] Mr. H. T. March (on page 367) asks for the experience of bee-keepers who have worked non-swarming hives during the past season. I am pleased to tell him how they have fared with me. I have had two of "Meadows'" hives, with the non-swarming arrangement attached, in use for experimental purposes, one being occupied by a pure Italian stock, the other with natives. The bees in both hives were very strong early on, and about the beginning of June I put shallow-bodies fitted with half-sheets of foundation under the brood-nest of each colony. The bees took to the shallow-frames at once, and when the combs were fully drawn out the boxes containing them were placed above the frames of brood-nest, with excluder-zinc between, shallow-bodies fitted as before taking the place of those moved overhead. Neither of these stocks attempted to swarm, and in both cases the top box was filled with

honey, the bottom one only having the combs drawn out. No doubt the poor honey-season in these parts accounted for this, and for the same reason it was no use moving the second lot of frames to the top of the brood-nest, as would otherwise have been the case. I am so pleased with my first experience of these hives that next spring I shall transfer the bees in my out-apiary into them, feeling sure this arrangement is the only natural way in which bees can extend their brood-nest. It often happens that no amount of additional room *upwards* will induce them to extend, but in this new arrangement it seems to follow as a natural consequence. We are told by some never to allow the combs in lower shallow-body to be completed. I know of a case during 1899 where a bee-keeper using one of these hives put shallow-bodies above and below the brood-nest at the same time, and both these bodies were filled with honey; there is, however, little doubt that an expert bee-keeper would have taken nearly double the quantity he did. This shows the bees will descend as well as ascend to store honey. —R. GODSON, *Hon. Secretary, Lincs B.K.A., Tothill, Alford, September* 22.

[4089.] Seeing the letter of Mr. H. T. March in last week's B.B.J. (4084, page 367), I beg leave to inform him through your columns of my experience with non-swarming hive. I transferred two of my best stocks to these hives last May (when they were starting queen-cells) which stopped all inclination on the part of the bees to swarm, and about June they were very strong, each stock thickly covering eleven frames. A super was then put on and readily taken possession of; and at one time I had as many as three supers of shallow-frames on one hive. Of course the shallow-frames under the brood-nest need removing when worked out, but in my case the bees did not touch the foundation, apparently preferring to work overhead. This is only the experience of one year, and it remains to be seen whether the non-swarming hive will always answer its purpose, but in future I shall all my hives on that principle.—W. F. HOSEGOOD, *South Norwood, September* 21.

BEE-KEEPERS AND THE ELECTION.

[4090.] Mr. W. Loveday's letter in B.B.J. of July 19 (4036, page 282), and one signed "Desperate" in last week's issue (4085, page 367), on "Dealing with Foul Brood" lead me to ask if, with the General Election but a matter of a few days off, bee-keepers ought not to draw up a form to present to all candidates asking if they are in favour of foul brood being brought within the operation of the "Contagious Diseases (Animals) Act," in order to protect bee-keepers in the same manner as farmers are in regard to scab in sheep? The *modus operandi* in the latter case is this: any farmer suspecting sheep belonging to another of being affected with "scab," can, by informing a policeman of this opinion, secure the help of a "vet." to examine the aforementioned sheep without the owner's consent. I think that foul brood should be brought on the same footing. I have had to destroy two hives out of my small apiary, which I could ill enough afford. I hope you will think the matter worthy the attention of all bee-keepers.—W. LLOYD, Jun., *Skerton, Lancaster, September* 24.

[It would no doubt do good and be useful in the future for individual bee-keepers everywhere who are electors to bear the above in mind when being canvassed for their votes, but the time is too short for collective effort. We may, however, urge all readers to avail themselves of the opportunity for saying a word on the hardship and gross injustice inflicted upon bee-keepers, owing to want of compulsory powers, to destroy all bees known to be diseased. When it is known that whole districts can be infected and successful bee-keeping rendered impossible by one obstinate bee-keeper refusing to have his diseased stocks put out of the way of doing harm, nothing but advantage to all concerned could follow the conveying of this knowledge to members of Parliament. This is, to our mind, the best use to which our correspondent's suggestion can be readily put by all bee-keeping voters.—EDS.]

BEES AS FERTILISERS.

THREATENED ACTION FOR DAMAGE.

[4091.] You have been kind enough to advise me as to bee-keeping on two previous occasions, and I shall be very much obliged if you would kindly do so again on the following:—

I have a small apiary of eight hives, situate on a piece of ground rented by me. About 30 ft. in front of the hives is the boundary wall—some 8 ft. high—and on the other side of this wall there are several glasshouses. The lessee of this glass talks about suing me for damage done to his cucumbers, in consequence of my bees "inokerlatin'" them, as he says. There are two other apiaries within 300 yards of this man's glass, and cucumber blossom is known to be visited by the different species of wild bees, also by many different kinds of flies. It would therefore appear that the grower will have great difficulty in proving that any damage is done by my particular bees, and to assess the amount of such damage, if any. There are also a good many bee-keepers in this district, and acres upon acres of glass, so that if one grower succeeded in making out a case, there would be a warm time in store for bee-keepers. What do you think of the case?

Several articles (mostly exaggerated and imaginary) have lately appeared in the daily

papers as to bee-keepers, their liabilities, and the huge profits they are supposed to make; and owing partly to these articles and partly to deep-rooted ignorance, a feeling seems to be gaining ground amongst a certain class that bee-keepers are "worth going for." Other members of the craft may have experienced this feeling in their respective districts.

If you can refer me to any cases affecting bee-keepers I shall be very glad. I have access to the Statutes (up to date) and a very good law library, but to start searching the indices of these and also of a large collection of law reports (some very ancient) is rather a "large order." I enclose name and address for reference, while signing myself "LEX LOQUITUR," *Worthing, September* 15.

[Our view is that the threat mentioned above may — to use an Americanism—be regarded merely as a bit of "bluffing." We say this not only on account of the impossibility of proving that your bees are the culprits, but because the man who desires to protect particular plants from cross-fertilisation by bees or other insects must himself take measures to attain the end sought. In other words, he would, to our mind, have about as much chance in an action against Dame Nature herself as against a bee-keeper whose hives happen to be located within range of the "cucumber blossoms." We cannot recall a case analogous to the above or one likely to form a precedent, but all the probabilities seem in the bee-keeper's favour.—EDS.]

Queries and Replies.

[2509.] *Bees Robbed out in Autumn.*—On the 15th inst. I gave some candy made according to Cowan's "Guide Book." This morning (September 19), on examining the hive, I find the whole colony dead! On lifting the quilts four wasps flew out and a portion of one frame of comb was eaten away. Before opening the hive I noticed a few dead bees on the alighting board—inside they are all dead as they cluster on the frames. It was a fairly strong stock. Is it possible that the presence of wasps is the cause? Last night I gave candy to some driven bees, which have not yet worked out their combs, and this morning I find them carrying it down and out on to the alighting board. I was most particular in the manufacture of the candy. In the latter case the bees are at present alive.—BEE-KEEPER, *Bletchley, September* 19.

REPLY.—1. Some further particulars are necessary to help us in safely diagnosing the cause of bees' dying. Judging by what appears on the surface, however, it seems to be a case of death from want of food. It may be the stock was "robbed out" some time ago, in which case the few wasps seen would only indicate that they have helped to empty the combs of what food was left therein. You do not even say if the stock has yielded any surplus or not this year. On the other hand, if the colony was known to be short of food for winter, syrup (not candy) should have been given plentifully, and the bees seen to if symptoms of "robbing" were noticed. 2. We fear your candy-making has not been a success if the bees are, as stated, carrying it out in hard granules and casting it on the ground. The candy should be soft in texture and smooth in grain if properly made. Besides, candy is unsuitable food for a driven lot of bees which have combs to build at this season. Well-made syrup-food—given a quart or more at a time in a "rapid feeder"—is what bees require under such circumstances as are named above.

[2510.]—*Building up Stocks of Driven Bees.*—On September 12 I drove a lot of bees, and, after hiving them in an empty skep, wrapped the latter up warmly, put a good rapid feeder on, and started feeding. I am afraid the bees are not very strong at date of writing, and ask:—1. Do you think they will survive the winter all right? 2. *Spacing Frames at 1¼ in. Apart.*—Will you kindly tell me the advantages and disadvantages of spacing frames to 1¼ in. from centre to centre? I did it last year, and two of my hives swarmed, and I thereby got no honey, while from the other hive that did not swarm I only got 30 lb. I have been warned by a first-class expert not to space frames at the 1¼ in. distance. 3. I was also told by the same man that "doubling" was not practised now, although it was recommended by Mr. Cowan some years ago. Does Mr. Cowan still recommend it? 4. Owing to my holidays I did not start stimulating till late this year, and so I want to continue it as late as possible; up to what date would it be safe to stimulate? 5. Last time I made some syrup I burnt it; would it harm the bees?—AMATEUR, *Carleon, Mon., Sept.* 20.

REPLY.—1. It is more than doubtful whether a driven lot of bees, hived in an empty skep, and described as "not very strong" at end of September, would survive till next spring and do any good afterwards. 2. The "advantage" of spacing frames 1¼ inch apart—when hiving a swarm—is to prevent the production of drone-comb while using "starters" only instead of full sheets of foundation in frames. The "disadvantage" comes in where the bee-keeper has not grasped the principle involved in the system, and, in consequence, fails to carry it out properly by spacing the frames at the usual distance of $1\frac{7}{16}$ inch from centre to centre as soon as the object aimed at has been secured. 3. Reference to the chapter on "Doubling and Storifying" in Mr. Cowan's "Guide Book" will furnish the best reply to this query. 4. Stimulative feeding should

begin in mid-August. The end of September is too late for any feeding other than making up the winter stores where short. 5. Burnt sugar is injurious to bees as food in cold weather.

[2511.] *Re-queening Hives.*—1. Will you please let me know how to tell when I ought to re-queen a stock? I have one which I bought as a swarm in 1898, headed by a queen of 1897, and they flourished wonderfully well, giving me a good yield of honey last year. I have not done so well with them this season, perhaps owing to my inattention in the early spring and the bad season. I believe they have never swarmed since being hived, and therefore presume that I hold the same queen which will now have entered upon her fourth year. I have not examined the brood-nest, but the bees seem fairly strong and active, and have a good stock of stores on hand for the winter. 2. Would you also let me know the most humane method of destroying the condemned queen after removal from a hive?—ERNEST, *Leicester*.

REPLY.—1. The present is a good time to replace failing queens with young fertile ones; but it is by no means certain that the queen reared in 1897 still heads the colony. Bees frequently re-queen themselves by deposing the old one and raising a successor. If, therefore, the queen now heading the stock has done well, and is still prolific, we should let well alone, and take it that all will go on right next year. 2. A sharp squeeze of the thorax between the fingers puts an end to the life of a queen bee in a second.

[2512.] *Feeding-up in Autumn.*—After removing the surplus from one of my hives this autumn I find now that there is very little, if any, supply of honey stored for winter use. I accordingly commenced to feed, but the bees are not taking the syrup down in sufficient quantities to give them the required 20 lb. of food for winter use before the end of September. I therefore ask—Will it be right to introduce two frames of last year's honey, which I removed from another hive in order to give them fresh foundation? I may state that the honey referred to is not crystallised, though there are indications of such in parts of the cells, small white spots appearing here and there. I also notice a quantity of stale pollen in the lower cells.—HELPLESS, *Tooting, September* 20.

REPLY.—There can be no objection to using the stored combs in the way proposed, but some reason exists for the bees refusing to carry down sugar-syrup at this season if properly made and given in a suitable feeder. It will require at least 10 lb. of syrup to supplement what is stored in the two frames mentioned, and we should advise trying to overcome the difficulty by making good syrup, giving it warm, and keeping the hive warm by covering the feeder with plenty of wrappings in order to conserve the heat.

[2513.] *Suspected Foul Brood.*—I am forwarding by this post a piece of comb for your kind inspection. The circumstances are these:—I got foul brood into my stock three or four years ago; tried all plans of cure without stamping out; have now burned whole stock of ten hives. No bees within three miles of me. A kindly neighbour at that distance has now given me five of his superfluous stocks in straw skeps and make-shift hives. One of these was strong in July and starting to work in supers upon two "Stewarton" body-boxes, which were evidently well filled with brood. A month of bad weather followed, and then, all at once, the bees seemed to be dying in hundreds, many of which were thrown out. When I lifted a box to-day the floor-board was covered with dead bees; many hundreds were lying head foremost in cells of lower box. The upper box has a fair quantity of bees, but I have been unable to tell whether there is a queen. I am anxious to know if there is foul brood in the hive.—V. V.

REPLY.—There is no trace of disease in comb, and the brood (some alive and ready to hatch out when received) is in normal condition. We cannot account for bees dying as stated except by saying that the symptoms described point to death from want of food. This point can be cleared up by examining the combs in body-boxes, and if this is done we shall be glad to hear the result.

[2514.] *Bee-Pasturage: its Capabilities.*—Will you kindly say in an early issue of B.B.J. whether there is any data which would indicate how much acreage of pasture (say, of white clover) will support a given number of colonies? I believe I shall have to cultivate fodder for my bees, as the neighbourhood is not otherwise a rich one; and I shall willingly do it, as the crop will be a marketable one, and valuable at that.—T. L. R., *Shenley, Herts, September* 21.

REPLY.—We do not think it possible to form accurate data as regards the capabilities of a given acreage of bee-pasturage from the bee-keeper's point of view. To say how many colonies a certain number of acres will "support" (*i.e.*, provide with food for their own subsistence) hardly represents the views of a bee-man who expects a far greater weight of honey for *his* share of the year's harvest than he leaves behind for the bees. Besides, so much depends upon the season, when considering the question of the honey yield of certain blossoms, that it is best to judge of a district after personal trial, or from the experience of those located there. We must also add a word of advice to those seeking a location for successful bee-keeping, not to go where the natural bee-pasturage is either insufficient in quantity or where the said pasture yields honey of inferior quality. Apart from this, a few flowers sown to bloom either before or after the "main crop" comes

in are helpful, but not likely to affect the harvest in any appreciable degree.

[2515.] *Dealing with Foul Brood.*—I am greatly obliged for your reply to my query *re* foul brood a week or two ago, and would now ask—What is best to be done under these circumstances? I have twenty stocks, with possibly fourteen of them affected with foul brood to the extent of from six to twenty or thirty cells in each hive. I have opened none which are greatly affected, but almost all seem to have a cell or two. The hives are full of bees, and I have never had any foul brood in my apiary until this season. What I wish to to know is—Would it be advisable to go round the hives as soon as the greater part of the brood has hatched, and cut out all the affected cells; then, as early next spring as would answer best, start the whole lot on full sheets of foundation, and wash the hives, &c., with disinfectants? I have a good lot of shallow combs on hand. Ought I to turn these into wax, or can I make them safe to use again? The season in this district has only been a very moderate one. I get about half of last year's amount of honey, and with more stocks at work.—PENWIPER, *Herefordshire, September* 18.

REPLY.—Taking into account the lateness of the season for starting any curative measures involving removal of bees from combs, we think the course proposed is the best to follow under the circumstances, especially as all the hives are reported "full of bees" on September 18. There may be no need for the drastic measures suggested for the early spring of next year, but where required the bees could be got into disinfected hives and dealt with as swarms on full sheets of foundation.

[2516.] *Taking Bees to South Africa.*—I am a Natal farmer, and have come home to recruit my health. I wish to start bee-keeping when I return to South Africa, and have been picking up scraps of what practical knowledge I have been able. I wish to know if it would be possible to take out a good stock of bees with me in November next, or some good queens, bearing in mind that the voyage takes from three weeks to a month. I shall be much obliged if you can give me any information on this subject. I have purchased the "British Bee-keepers' Guide Book," and find it very interesting.—E. BARRON DICKINSON, *Ilfracombe, September* 18.

REPLY.—There is so much of risk and trouble involved in taking full colonies of bees to South Africa that we consider it better and safer to take queens only, with just so many bees as will keep the queens safe and well. To do this we know of no better plan than fitting suitable boxes with three miniature frames in each, about the size of a 1-lb. section; each frame being filled with clean comb and contain food. Then, with a handful of young bees to accompany each queen, and about 12 or 14 oz. of food for each lot, half-a-dozen queens will take up little space and be easily cared for on board ship. The boxes we have in mind are those in which Italian queen-breeders send queens to this country.

[2517.] *Can Bees Cure Themselves of Foul Brood?*—Will you kindly give me your valued advice on the following matter? Last autumn I had two stocks of bees made up of driven swarms, which wintered well, and to all appearances were healthy in the spring. Later on I believed both of them to be affected with foul brood. As they were strong and working well I decided to leave them until after the honey-flow, and then unite the bees on fresh frames. On examining them last week I was greatly surprised to find there was not the least trace of disease; brood in all stages appeared as healthy as in the spring. Is it possible or even probable they were affected and have cleared the combs themselves without assistance? If so, will you kindly advise what to do to prevent it breaking out again?—ANXIOUS, *Bournemouth, September* 24.

P.S.—Since writing the enclosed letter I have noticed among the sealed honey two doubtful-looking cells, on which I shall be glad of your opinion.

REPLY.—Strange as it may appear, cases have been known where bees affected with foul brood have, so to speak, cured themselves, and this without any help on the bee-keeper's part. But these isolated cases are only the exception which prove the rule, and it would be folly to regard them in any other light. Besides, the query in your postscript leads us to think you may have been mistaken in supposing the stocks to be diseased, seeing the two "doubtful-looking cells" contain nothing worse than honey.

[2518.] *Frame-hives with Immovable Combs.*—In May last I purchased from a local bee-keeper a colony of bees in frame-hive made by himself. I now find that the frames of comb are secured in the hive by two sticks passing from side to side of hive and cut off flush with hive sides, this entirely defeating the object of having movable combs. I therefore ask:—1. Would you advise tranferring the bees to a new hive—with proper moveable frames—by the process advocated in the B.B.J. for allowing bees to transfer themselves from straw skeps to frame-hives, viz., setting hive on top of new one and allowing bees to remove the brood nest below? 2. If so, what time of the year should this be done? 3. Would it interfere with the *future* prosperity of the colony if done in the spring of next year?—J. H., N.B.

REPLY.—1. The course proposed will be by far the best to follow. 2. As early next year as the old hive has its combs covered by bees is the best time to operate. 3. The future prosperity of the colony will be enhanced by deferring the transfer till April or May next year.

COMB HONEY PRODUCTION.

HARVESTING, STORING, AND CRATING.

In investigating or taking comb honey from our bees it is important that we do it at the right time, especially if intended for market, which is the case with the more extensive bee-keeper. In securing comb honey I practice the tiering-up system, and have done so for over thirty years. I can get more honey by this system than any other I have ever tried, and they have been many. One super of boxes is first given to each strong colony run for comb honey, and as more room is required the first cases are raised up and a new one placed beneath, and at times during good seasons a third case is added and placed next to the brood-chamber.

I go through my apiary twice each week during a good flow, and note the progress being made in the supers, as I can quickly do, as every super has an observation glass through which I can at a glance see what is being done. All completed supers are removed from the hives at each time, freed of bees, and taken to the honey-room adjoining the bee-yard. At this time, if more room is needed it is given each colony requiring it.

To have the honey in the best shape to sell, it should be removed from the hives as soon as all is capped over. The beautiful cappings are then white and very inviting. If allowed to remain long after being capped in the hives the cappings become darkened by the bees, and the appearance is injured.

As the summer harvest—which here is secured from white and alsike clover, and basswood—nears its close, less surplus room should be given, for by the contraction of space in the supers more combs will be completed than in the larger space, and I desire to get all the finished comb honey possible. At close of surplus-gathering from the above sources, all supers should be removed from the hives, cleared of bees, and stored in the honey-house.

For the correct storing of surplus honey a warm, dry, and airy room is essential. There should be windows at least on two sides of the room to admit light and a good circulation. The windows should be opposite, and I think preferably at the east and west sides of the room. The building should not be shaded, and should be painted a dark red or some dark colour, so as to draw heat. The hot, dry air of summer will in motion do much to still better ripen the honey. Screens of fine wire should be tacked on the outside of the window-casing at the bottom and sides, and a ⅜ in. space left at the top by full width of the window, and extend about 1 ft. above the window. This will allow any bees that may be carried in with the honey to escape at the top, and will also exclude all bees, flies, and moths.

The building should be 1 ft. or more above ground, so no dampness may be caused from beneath. The windows should be left open on all pleasant days in summer. Of course, the honey-room should be mouse-proof. A strong rack should be made on which to place the honey, and preferably at one side or end of the room, as it will so least interfere with working room. The rack should be 1 ft. above the floor, so the air may freely pass under it. A row of cases should first be put on, and on top of these at the front and back strips 1 in. square should be placed; and this should be continued in the same way until the space is filled to the ceiling of the room, if necessary.

All the finest honey should be stored in a body, and that not so fine by itself. At the time the honey is taken in I place it to one side, and the next morning clean off the propolis from the supers and boxes, so far as we can, and tier it up on the rack in the proper place.

By storing the honey as above stated, the hot-air circulates freely all through between the cases and boxes, just as it should do to ripen the honey more fully. The honey is thus left until time for crating to market, which is of necessity after the close of the summer harvest. Some is crated to supply my home demand, but the larger part is left until September.

The supers taken off at the close of the summer harvest not completed are tiered separately.

To handle and crate comb-honey properly requires much care. The delicate combs are very easily cut or bruised, and a little carelessness will result in broken combs and dripping honey. In crating comb-honey I have a case at my right hand on a bench, at my left I place a honey-case. A section-box is raised from the super, taken in the left hand, and with the right hand I use the hive-opener, with which I scrape off the propolis from the box, and place it at one corner of the case, next the glass. The second section is removed from the super, and placed next to the first one in the case, and so I proceed until the case is filled. She other supers of the same grade are thus emptied. If any combs are cut, or in any way broken, such should not be put in the case. A very few broken combs, if cased, will make a dauby mess, as the honey will cover much of the case bottom and drip through, thus disgusting all who may in any way later handle the honey.

I usually case my nicest honey first, which I grade as No. 1. That not so white in comb, or a little coloured by the bees, and combs not so complete, is styled No. 2. The honey in the cases of each grade should be uniform in quality. The honey next the glass in each case should be no nicer than that in the central part. The honey should in other ways be cased so that to see the combs next the glass, as it stands in the store or commission house, may be an evidence of the quality of the whole case without further

inspection. When honey is so put up the purchaser, whether grocer or consumer, can take it and handle it comb by comb with satisfaction in selling or using. Every bee-keeper has his own reputation to build up and hold; if he expects good sales in the future, his goods should be as represented by the honey in full view.

The partially filled supers taken off at the close of the summer harvest should be looked over and all complete boxes crated for sale, and those not so filled returned to the hives at the opening of the fall honey-flow, if such comes.

For the second grade I use very few uncapped combs, or those combs not nearly all capped. I sell some of the partially capped combs to neighbours, or to those who call and may see and prefer it at a lower price. Those not sold at the close of the honey season are emptied and used the next season. My honey-crates have two glass sides, which show off the honey to good advantage, and aid sales. The covers are tight fitting, and come over to the outside of the crates, thus keeping out all dust, &c.—F. A. Snell, in *American Bee Journal*.

DARING BEE-HIVIOUR.

"A West Country farmer is training bees as letter-carriers."—*Westminster Gazette*.

The Postmaster-General *loq.*:—

"Confound those little busy bees!
What next will they be at?
They certainly must not 'improve
The shining hour' like that.

"By all means let them do the tasks
Which nature them allots,
And build their cells and spread their wax,
As shown by Dr. Watts.

"By all means let them carry spoil
From every flowering herb,
For *that* does not the G.P.O.
Monopoly disturb.

"But when they carry letters, then,
Industrious as they are,
As P.M.G. I'm bound to say
They carry things too far.

"Of course I ought to crush at once
The fussy little things
That carry letters—but, you see,
They also carry stings.

"The Courts 'gainst 'Jaggers' and his tribe
Injunctions can decree,
But how in Common-sense's name
Can they 'injunct' a Bee?"

Bee Shows to Come.

September 22 to 29, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Classes (open to master grocers only) for Comb Honey in sections, and for Extracted Honey. **Honey Trophy class. Open to all Bee-keepers.**

September 29, at Jedburgh.—Annual Show of the Roxburghshire B.K.A., in the Church Hall, Queen-street. Twenty-four classes for honey, &c.

October 9 to 12, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.

November 15 at the Town Hall, Ludlow, in connection with the sixth annual exhibition of the Chrysanthemum and Fruit Society. Two open classes for sixes. Schedules, &c., from Jno. Palmer, Hon. Sec., Ludlow. **Entries close November 6.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Gerard J. Young (Lincoln).—While sharing your surprise—after reading the particulars sent—we cannot shut our eyes to the reality of a "photo from life," and therefore have no doubt that the matter only needs explaining to prove the bona-fides of the person most concerned. We will, however, make further inquiry on the subject.

G. M. S. (Keswick).—*Press Cuttings.*—In view of the object you had in sending on the "cuttings" in question, we regret that so many B.J. readers (including yourself) will persist in supposing that this journal is—so to speak—part and parcel of the British Bee-keepers' Association, which is a mistake. The B.B.J. is the recognised organ through which official announcements are made, but there is no business connection whatever between the two. All communications intended for the Association should, therefore, be addressed to the Secretary, Mr. Edwin H. Young, 12, Hanover-square, London, and not to this office. Our allusion to Mr. Root's offer, on page 373, was deemed appropriate because of the abundant "press cuttings" at the time, which led people to believe that artificial comb-honey was made by machinery, and sent out in sealed comb without any aid whatever from the bees; a statement just as absurd as that of "grocers feeding bees with glucose" to get combs stored.

T. Freeman.—*Exhibits at Shows.*—We will make inquiry on the subject named before giving the matter publicity, meantime would be glad to know if you have been invited to enter your "models" for competition by anyone connected with the show in question.

J. B. W. (Gelli Lydan).—*Drones in Skeps in September.*—1. As a rule it is fairly safe to say that when drones are tolerated in September the hive containing them is queenless. 2. We cannot give a reliable opinion so far as regards "the bees in both skeps working well and carrying in pollen in September," nor can we explain your "finding a young immature bee outside one skep" while drones are still flying, unless we had some particulars of the past history of the skeps. 3. If the bees are really queenless they should be utilised now, not "left as they are till spring." 4. You might save the bees by uniting both lots at once and giving them a fertile queen.

ANON. (Blackpool).—*Filling Combs with Syrup in Feeding Driven Bees.*—If built-out combs are available, it will be helpful to fill them, as proposed, but the bees will be more inclined to seal the food over if deposited by themselves in the cells.

DEBORAH (Herts).—*Beginning Bee-keeping.*—1. The price quoted for a stock of Ligurian bees is very moderate. 2. The "brood-chamber" is the body-box resting on the floorboard, and it includes all frames in the said body-box. 3. There is no reason why you should not leave the bees all combs and natural stores contained therein; many of our best bee-keepers never extract the honey from brood-combs. 4. Honey cannot be kept from granulating, but by storing it in a warm cupboard granulation may be considerably delayed. 6. Supers are ready for removal when full and sealed over. 7. By joining a county bee-keepers' association you would get the help of the expert when on tour, and advice at all times on application to the secretary. Finally, you should procure a reliable guide-book before any chance of full success with bees can be hoped for.

W. R. (Crewe).—*Disinfecting Combs in Supers.*—It will generally suffice if combs are sprayed with soluble phenyle solution as recipe No. 8 in "Guide Book" (page 167).

W. K. BAKER (Penzance).—*The "Crane" Bee-Smoker.*—The smoker named is stocked by J. H. Howard, Holme, Peterboro'; George Rose, Great Charlotte-street, Liverpool; and David Raitt, Blairgowrie, N.B.

A. G. HUGHES (Chester).—*Bees and Comb Foundation.*—The projecting walls—or raised outlines of cells—are used by the bees in drawing out comb; that being the object of supplying the bees with material for their work of comb-building.

J. H. HORN (Yorks.).—*Mead-Making.*—The words "Turn it up, clay it down," on page 360, are quite correct as they appear in the quaint wording of the original recipe, "195 years old," which is given in its entirety.

J. DUNN-GARDNER (Fordham Abbey, Fordham, Cambs.).—*Exhibitors' Addresses.*—In printing awards at shows we rarely give full addresses, on account of our limited space. The address, as given above, will no doubt serve your purpose.

A. HENDERSON (N.B.).—*Fermented Honey for Bee Food.*—We never advise the use of fermented honey as bee food, our personal experience being against it, and your sample is badly fermented. We will reply to other query next week.

Suspected Combs.

NEIL DOWNIE (N.B.).—Comb contains drone-brood only in worker-cells, denoting a worthless, drone-breeding queen. There is no sign of foul brood, but all combs such as sample should be burnt, and the bees—if worth saving—united to another stock.

PONTOP PIKE (Dipton).—Comb is affected with foul brood in pronounced form, and of old standing.

T. C.—The cells in comb sent are completely pollen-choked, and, in consequence, are useless for any purpose. There is no disease, but hives furnished with such combs cannot prosper.

D. A. D. (Faringdon).—We find no trace of disease in comb. Two or three cells contain pollen, the rest liquid food.

T. A. D. (Ayrshire) and S. SUTHERLAND (Mid Aguston).—Comb sent is affected with foul brood in both cases.

W. FREEMAN (Coventry).—The small bits of crushed-up comb sent are not suitable samples for examining, especially as there are no traces of brood in them. There is, however, nothing to indicate disease, only a little pollen being found in cells.

W. GARLINGE (Dover).—No brood at all in comb, nothing worse than honey and pollen.

"N." (Surrey).—Comb is badly affected with foul brood. The disease does not appear of very long standing though comb is old; but it may have only lately got into the comb from which sample was cut.

Honey Samples.

J. H. (co. Down).—Both samples of "Californian honey ten years old" are free from any sign of fermentation and in excellent condition for their age. Therefore, if stirred into very thin syrup while latter is hot, so as to liquefy the granules and blend the lot well together, it should make good syrup-food for bees. It is also quite fit for table use, though dark in colour.

IVAN SHEPPARD (Bath).—Your sample is evidently cut from a granulated section, and, with no liquid honey to aid us, we cannot fix the source, but fancy it is from white clover. The granules are formed quite independent of your idea that "each granule" represents a "bee load" of honey.

G. R. (Yorks).—Both are nice samples of honey, No 1 being best in aroma, colour, and flavour.

Editorial, Notices, &c.

CLOSE OF THE SHOW SEASON.

After going through an exceptionally long list, we have at length reached the final bee and honey shows of 1900. Up to almost the hour of writing we calculated on having only to deal—in this connection—with the ever popular Dairy Show, which opens at the Agricultural Hall on Tuesday next, the 9th inst., but we are now asked to invite the notice of B.B.J. readers to another "final" show of the year, viz., the Edinburgh and Industrial Exhibition, to be held in the Waverley Market, Edinburgh, on October 17 and three following days. (Full particulars regarding the bee and honey section appear in advertisement on page v.)

We are requested to say that, owing to the poor honey season in Scotland, very few entries have been made so far, and as the promoters of the show are extremely unwilling to cancel the honey classes (which are open to all comers), they appeal to British bee-keepers generally to support the show by sending entries, and thus avoid so undesirable a result. There is still some good "show honey" in this part of the kingdom, and we therefore earnestly urge those who have it on hand to help our Scotch brethren in presenting a good display of bee-produce on the occasion referred to, and thus keep the craft still to the fore.

THE B.B.K.A. CONVERSAZIONE.

The meeting at Jermyn-street, on Thursday next, the 11th inst., is another gathering of bee-keepers to which we cordially invite our readers' attention, and hope that as many as possible of those who attend will bring any good sample they may possess of granulated honey. It will be remembered that last year the subject of the late-flowering lime was profitably discussed, and since then a good deal has been done in the way of planting various later flowering sorts. Thus the meeting, as usual, led to practical results. This year Mr. Walter F. Reid has kindly promised to introduce the very interesting and useful subject of the granulation of honey, explaining the changes that occur in crystallisation, and also in the artificial liquefaction by heat. Mr. Reid will, in fact, explain the chemistry of the subject. This will lead to useful discussion, and if there are any good examples of granulated honey on the table from different districts it may assist matters.

THE BASINGSTOKE BEE-CASE.

COMPENSATION FUND.

Since our last issue we have received the following letters bearing upon the case, and hope other readers who agree in considering that the object of the fund is worthy of support will please lose no time in forwarding a donation :—

"I send you half-a-crown to show my sympathy with the Basingstoke bee-keeper, who does not appear to have brought his misfortune on by any contributory negligence; we are all liable at times to have cantankerous and unscrupulous neighbours. Nevertheless the bee-keeper, although he has lost the day, has by far the best of it; his loss is only a *material* loss which can be soon wiped off; his adversary in my opinion loses morally. I hope bee-keepers will send on their shillings freely for this case, which is one that ought to command general sympathy."—E. D. T.

"I have pleasure in sending 2s. 6d. towards the Basingstoke Bee-Case Fund. I also quite agree with the suggestion that we should have a fund for 'defence' as well as an 'insurance fund.' My apiary being situated six miles from home I tried to insure it against loss and fire with some of the 'Live-Stock Insurance Companies,' but none of them would take it on."—D. H. DURRANT, *Acton, October* 1.

"Enclosed is a P.O. 2s. 6d. towards the 'Longley Fund.' I shall also be pleased to contribute to any fund having for its object the upsetting of what appears to be an absurd judgment."—F. C.

"I have pleasure in enclosing 2s. for the 'Basingstoke Bee-Case' Fund. There seems to be a great difference between the Press reports of the case and the defendant's statement as given in B.B.J., which, if correct, shows that he did not get justice."—G. W. C.

	£	s.	d.
Sums acknowledged last week...	1	10	6
Since received :—			
E. D. Till, Eynsford.....	0	2	6
D. H. Durrant, Acton	0	2	6
F. C., Hants	0	2	6
G. W. C., Ealing	0	2	0

AGRICULTURAL SCHEME FOR WOMEN.

We are requested to announce the second annual general meeting of the Lady Warwick Agricultural Association for Women, which will be held at Stafford House, St. James's, S.W. (by kind permission of his Grace the Duke of Sutherland), on Friday, October 12, at 3.30 o'clock. The Countess of Warwick will preside. Agenda:—1. The report, including work of the Association, registry, and *Woman's Agricultural Times*. 2. Openings for women trained in the lighter branches of agriculture—(*a*) As gardeners, fruit and flower growers, market gardeners; (*b*) as dairy women; (*c*) as poultry rearers; (*d*) as bee-keepers. All Members of Committee (Executive and General), Patrons, and Associates are earnestly begged to attend this meeting, which will also be open to the general public. Admission by ticket only, to be obtained from the Organising Secretary, Lady Warwick Hostel, Reading.

SOUTH OF SCOTLAND B.K.A.

HONEY SHOW IN GLASGOW.

The South of Scotland B.K.A. held a most successful honey exhibition, in conjunction with the Glasgow and West of Scotland Horticultural Society's Show, in the St. Andrew's Hall on September 5 and 6. The exhibits, though numbering only seventy entries, were of high quality, those in the "open classes" being particularly good.

The arranging of the exhibits was admirably carried out by Mr. Jas. Kerr, Dumfries, Secretary of the S.S.B.K.A. Colonel Bennett, Ayr, officiated as judge, and made the following awards:—

OPEN CLASSES.

Six 1-*lb. Sections.*—1st, Harry Wood, Paradise, Lichfield; 2nd, W. Woodley, Beedon, Newbury: 3rd, W. Hogg, Castle Douglas.

Six 1-*lb. Jars Extracted Honey.*—1st, W. G. Dear, Middle Woodford, Salisbury; 2nd, G. Spearman, Colesbourne, Andoversford; 3rd, J. Sopp, Crowmarsh, Wallingford; v.h.c., W. Woodley; h.c., Jno. Berry, Llanrwst, N. Wales c., F. Chapman, Wells, Somerset.

Display of Honey (*not over* 100 *lb.*).—1st, W. Hogg; 2nd, Jno. Clark, Muirhouse, Carnwath; 3rd, Jas. Kerr, Milldamhead, Dumfries.

CONFINED CLASSES.

Twelve 1-*lb. Sections.*—1st, Jas. Kerr; 2nd, W. Hogg.

Six 1-*lb. Sections.*—1st, Jno. Clark; 2nd, Jas. Kerr; 3rd, W. Ormiston, Biggar.

Six 2-*lb. Sections.*—W. Hogg.

Two Frames of Comb-honey.—1st, Jno. Clark; 2nd, W. Hogg.

Six Jars Extracted Honey (*light*).—1st, R. Colthart, Abington; 2nd, W. Hogg; 3rd, J. Clark; v.h.c., W. Ormiston.

Six Jars Extracted Honey (*dark*).—1st, W. Hogg; 2nd, Jas. Kerr; 3rd, W. Ormiston.

Six 1-*lb. Sections Heather Honey.*—1st, Jno. Clark; 2nd, Jas. Kerr; 3rd, W. Hogg; v.h.c., W. Ormiston.

Six 1-*lb. Jars Extracted Heather Honey.*—1st, Jno. Clark; 2nd, W. Rae, Biggar; 3rd, R. Colthart; v.h.c., Jas. Kerr.

Super of Honey (*over* 15 *lb.*).—W. Hogg.

Super of Honey (*under* 15 *lb.*).—1st, Jas. Kerr; 2nd, W. Hogg.

Super of Heather Honey (*over* 15 *lb.*).—1st, Jno. Clark; 2nd, W. Rae.

Super of Heather Honey (*under* 15 *lb.*).—Jno. Clark.

Design in Honey-comb.—W. Rae.

Cake of Wax.—1st, Jno. Clark; 2nd, Jas. Kerr; 3rd, W. Hogg; v.h.c., R. Colthart; h.c., W. Rae.

Honey Cake.—1st, W. Hogg; 2nd, R. Colthart; 3rd, Jno. Clark.

Three 1-*lb. Sections.*—1st, Jas. Johnstone, Dumfries.

Three 1-*lb. Jars Extracted Honey.*—1st, R. Colthart; 2nd, Jas. Johnstone.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

QUEEN-BEES FIGHTING FOR SUPREMACY.

[4092.] In your issue of September 20 (2504, page 368) mention is made of its being understood that rival queens, when in mortal combat fighting for supremacy, separate rather than cause the death of both. This is a very interesting subject.

I have not often had an opportunity of closely observing a duel between two queen honey-bees, but have frequently witnessed it in the case of two fertile queen humble-bees. Two queen humble-bees will live quite peaceably together when neither or only one of them is fertile, but when they both are fertile, especially if they are also young and vigorous, they will fight—at least in the case of the several species that I have had specially under observation—with unabated energy until the mortal disablement or, less frequently, the almost instant death of one of them puts an end to the combat. In all the many duels between queen humble-bees that I have witnessed one of the combatants has always come away from the conflict alive and well, though sometimes maimed for life. It seems that it is difficult for the queens to strike one another at the same time, for while one is making a thrust the other is occupied in endeavouring

to ward it off. The vanquished queen generally remains alive for some minutes, occasionally for hours, after she has received her death wound, and one would think that she would then, if she could, strike back.

Is it powerlessness or is it unwillingness that prevents her from doing so?

In the case of the stung queen humble-bee I imagine it is inability, for it may be noticed that the instant the poison of her rival enters her body she becomes feeble and rapidly grows cold. There is a more or less well-marked tonic contraction of the abdomen, and the posterior legs are generally affected with rigour. Both these effects are often very pronounced in the case of stung worker honey-bees, such as may be seen running out of a hive in which "fighting" is going on, dragging their posterior legs behind them in characteristic fashion, and with the abdomen telescoped up to about one-half its normal length. The rigour or stiffening of the posterior legs may or may not be present in cases of sting poisoning, but the contraction of the abdomen is always noticeable, and has a most interesting bearing on the subject in question. During a combat between two bees the mobility of the abdomen is of the greatest service to the combatants. The abdomen is generally extended in a curved position, and the sudden contraction of the abdomen caused by the action of the poison at once gives the doomed bee little or no chance of a successful thrust at her rival. I have also noticed that, as might be expected, the muscles actuating the sting are much enfeebled, in some cases more than in others. The abdomen being the part of the body in which the mortal thrust is usually received, it, of course, seems natural that the effects of the poison should be first and chiefly noticed therein. Apart from this, however, the poison seems to have the special effect above noticed in (1) causing instant contraction of the abdomen, and (2) enfeeblement of the muscles of the sting, and in this way immediately preventing any possibility of the victor herself getting stung.

An extended and mobile abdomen is, as has already been noticed, a considerable advantage to the combatant. It is, however, also a great disadvantage, for it exposes first in one place and then in another the vulnerable "joints between the harness," or, more correctly, the membrane connecting the segments, the very part where a fatal stab is most likely to be received. On this account we see that a robber honey-bee, when she finds herself surrounded by enemies on the alighting-board of a strange hive, prefers to stand perfectly still with her abdomen carefully contracted in an attitude of defence, meekly suffering herself to be roughly handled rather than attempt to give battle and at the same time to expose her weak parts to the numerous foes around her, over whom she would have no chance of victory. A queen honey-bee will often act in a similar way when she is uncaged in a hive containing hostile workers.

The whole subject of the natural use of the bee's sting and the effect of the poison upon the bee itself is very interesting, and would amply repay a careful study.—F. W. L. SLADEN, *Ripple Court, Dover, September* 25.

THE PARIS EXHIBITION.

THE INTERNATIONAL CONGRESS OF BEE-KEEPERS.

[4093.] Being myself in Paris during the time set apart for the "International Congress" referred to by Mr. Taylor (4086, page 376), I wended my way to the hall, thinking I might be interested in the proceedings; instead of which it was my misfortune to remain seated while several papers—no doubt relating to important bee matters—were read. I was, however, pleased to meet Messrs. Calvert and Dadant, of America, and Mr. Taylor was also there. At the close I was asked to attend a banquet, and friend Calvert was much amused at my answer, which was: "No, cannot waste time like that, this morning is sufficient." My knowledge of French being extremely limited, I did not see amid numberless items of interest everywhere around—and very limited time to see them in—that it was worth giving time either to feast or be talked to. Nor was I pleased with the bee-exhibits—indeed, I should have been sorry to face a "Royal" show with ALL the appliances seen there on my stand—in fact, none of them equalled our own manufacture. A strong statement maybe, but if any English bee-keepers saw them they would bear out my remarks.

There was nothing novel or usefully suggestive in any way, and I think if there had been I should have made a note of it for use. The honey, too, was not equal to our own. There were certainly some clever honey-comb designs, but, for remunerative bee-keeping, I consider we are far and away ahead of our worthy French neighbours. On the other hand I consider Paris and the Exhibition should be visited by every one; there is interest and enjoyment for all in both, and, so far as friendly treatment of Englishmen is concerned, why, we were splendidly treated everywhere. Friend A. G. Pugh, Beeston, was one of our party, it being his second visit to Paris, and we were all agreed at the finish that we had thoroughly enjoyed ourselves, while the week had ended without our seeing one hundredth part of what was on view.—W. P. MEADOWS, *Syston, September* 28.

BEES REFUSING FOUNDATION.

[4094.] The query of your correspondent "Pedro," in B.J., September 6 (2493, page 353), is one of great interest to beginners. The fact that bees will work on some foundations more rapidly than others is well known to most bee-keepers. So pronounced was this in

my own apiary in the season of 1898 that I determined to experiment with several makes of comb foundation. After a somewhat lengthy trial with five different makes I came to the conclusion that British-made "Weed" foundation is as near perfection as it is possible to get; in fact, until some inventive genius gives us ready drawn-out combs, I think we may be quite contented with "Weed." My experiments were spread over a whole season, in both brood-chambers and supers, and carried out with "worker and drone-base foundation. In one case I put "Weed" in the two outer rows of a "section rack" of twenty-one sections, with the centre row made up of four of one and three of another make. The fourteen outer sections were stored and sealed perfectly before the centre seven were drawn out. As this hive was very strong, and fearing the bees might swarm, I raised the rack in the orthodox way, and inserted another under it filled with "Weed." These sections were drawn out, stored, and capped in twenty days, while the seven in centre of top rack were still incomplete. Seeing, therefore, that there was little or no hope of getting these finished above, I took the top rack off and put "the unfortunates" in the centre row of another rack, filling up with sections having full sheets of "Weed," then slipped this between the remaining rack and brood nest, and left the hive until the end of the season. When they were taken off the outer sections were all stored, but only about three parts capped, and the seven in the centre were imperfectly capped, after having been in the warmest part of the hive the whole season.

In another case I put a rack of sections filled with ordinary foundation on a very strong colony. Here the bees absolutely refused to work in them at all, in spite of extra quilts and a bait of honey splashed about foundation. I may here add this was the only time I failed to get bees to work in supers. A few days after the bees swarmed. I cut out the queen cells and returned swarm in the evening, removed the section rack, and put on another filled with "Weed" foundation; two days after several were partly drawn out, and the bees had begun storing in them. I also tried shallow-frames with worker and drone-base foundation, and proved to my own satisfaction that a $5\frac{1}{2}$ in. by $1\frac{1}{16}$ in. frame filled with full sheets of "Weed" drone-base foundation is the best for extracted honey. In fact, I have used about 300 of them in my apiary this year, and to-day have been fumigating them with the fumes of burning sulphur and carbolic acid preparatory to packing them away for next season.

The above are from a series of experiments of my own, and the old adage still holds good:—

"One man's word is no man's word,
Justice needs that both be heard."

T. H. POWELL, *Castle Acre.*

NOTES FROM MONTGOMERY.

[4095]. The yield of honey in this county is very similar to what I read of in recent issues of the B.B.J. I have myself not had half the quantity of honey I got last year, although with two more stocks of bees at work. The cold weather spells a short time ago drove the bees out of supers to the brood-chambers below, and there they stored honey got from the heather, which was very full of bloom this year. Just before the heather honey began to come in some of my stocks carried out the larvæ, just as they do when income stops, although I was feeding to stimulate breeding. The yield of heather honey is far below the average of previous years. I have two weak stocks which were "robbed," so I intend to add driven bees and feed up at once. I find driven bees do better than other stocks if well fed. Please name heather enclosed?—CELT, *Maldwyne, September* 29.

[Bloom sent is *Erica cinerea*, or bell-heather.—EDS.]

NON-SWARMING HIVES.

[4096.] In reply to Mr. H. T. March's (4084, page 367) inquiry respecting non-swarming hives, I can say "Yes." They are all the appliance-makers claim them to be, and if the instructions given are carried out swarming will, in my opinion, be reduced to nil. Out of twenty-one hives I have not had a single swarm this season, and my honey harvest has been really splendid.

In the course of a week or two I intend giving my system in the B.B.J. for the good of its readers. In the meantime let me say that *all* "W.B.C." hives are "non-swarming" if the bee-keeper likes to make them so, and if Mr. March or any one else possesses this class of hive he need not think of purchasing non-swarming hives, as he already has them in his possession.—J. RYMER, *Levisham, Yorks, October* 1.

[Referring to the letters in last week's issue (and, as a matter of course, including the above) Mr. H. T. March writes:—"Allow me to thank the gentlemen who, in response to my request on page 367, have given their experiences with non-swarming hives."—EDS.]

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In the interesting "notes" which follow, sent by Mr. Wright to accompany the view of his bee-garden on opposite page, we have still further testimony with regard to the superiority of the frame-hive, used according to modern methods, over the straw skep in the matter of honey production. He says:—

"I have been a bee-keeper all my life, my parents always having them in skeps as long as I can remember. I commenced the modern

system in 1891, and as I gained experience increased to the number seen in photo. They are worked principally for extracted honey, this district not being adapted for sectional work owing to the honey granulating in a few days after removal from the hives. This is the result of our chief bee-forage being mustard, together with a fair sprinkling of clover and limes.

"The main part of my bee-work has to be done before 7 a.m., therefore I am much in the same position as several of your correspondents. Like some who have given their experiences, I have also a good wife, who prepares the honey for market, but she will not venture in the bee-garden at any price. I find the bees a source of profit, and, what is still more valuable, my work among the bees removes the cobwebs after a long day's business.

"With regard to my early bee-keeping days on the old straw-skep system, let me say I never used the 'sulphur pit' or destroyed the bees to get the honey, but always placed a small skep-super on top. I only remember securing a decent amount of surplus on this plan in one year. Doubtless my partial failures were caused by loss of heat, for I never took any trouble to keep the supers warm by packing them round the junction where they joined brood-hive, and so they formed cold and cheerless honey-chambers for the bees to store in. Gross carelessness you will say, but in those days I did not know of B.B.J. and *Record* being in existence, and was not at that time acquainted with any up-to-date bee-keepers. However, in 1891 I purchased two stocks in frame-hives, and thus made a start with movable combs. My first stock worked on the modern plan paid for themselves first season, and subsequently, as I have gained experience, I gradually increased to the number in my apiary to-day.

"The present season of 1900 is a record one for me both in quantity and quality of my year's harvest. I find by supering with new foundation each season my honey is much lighter in colour than when got on the old plan. The bulk of nectar-secreting flowers in this district are, as already said, mustard, for first crop; then a good breadth of clover follows; and if the weather favours us while the limes are in bloom, we get a very good 'wind up' from that source. I may say that the limes have yielded grandly this year.

"With regard to my honey market, I may say I have a good connection for the sale of my honey all over England, repeat orders constantly arriving. My good wife helps in extracting, jars it all off ready for sale, and, need I say, 'pockets the money' with my full consent. But do what I will I cannot get her amongst the bees; she bolts if a poor bee flies near her. My time, as stated above, is too limited to trouble with sections, nor is

MR. H. T. WRIGHT'S APIARY, MARCH, CAMBRIDGESHIRE.

this a good district for them, for the reasons already stated, so all our honey is extracted.

"Foul brood is, I am pleased to say, unknown in my apiary, but I always keep pieces of naphthaline in every hive, and every spring put the bees and combs in a clean hive which has had its interior well gone over with two good coats of paint. To my mind that is a preventive against disease. I also make it a part of my work to constantly renew brood-combs, and in addition winter the bees on natural stores.

"The very interesting correspondence of your regular contributors, and the valuable hints I get therefrom as each season rolls round, are most useful to me."

INTRODUCING QUEENS.

THE PASTEBOARD METHOD.

Reference has been made in the *American Bee Journal* editorially to the new method of "introducing" that we have been using in our apiary for a year or two back, and which we have recently applied to all the Benton cages that go out from our office. It is well known that the release of the queen from the Benton cage has hitherto been accomplished by the bees eating out the candy through a small hole in one end of the cage; but up till a few months back this hole has been plugged with a small cork. The receiver of the queen was directed to remove said cork when he placed the cage on the hive. It sometimes happened after a long journey that nearly all the candy was consumed, and in such cases the queen being released before the bees and herself got acquainted they would kill her. But all this has been changed. A piece of pasteboard with a line of perforations is nailed over the hole instead of plugging it with a cork. When the cage is received it is laid on the brood-frames after removing the cover, and that is all there is of it. The bees will stick their tongues through the perforations, gnaw the holes larger, and tear away the pasteboard. This takes anywhere from twelve to eighteen hours, after which the candy is eaten out and the queen released, so that the whole thing, from beginning to end, is automatic. All the receiver of any queen has to do is simply to take the cage, remove the cover, and then lay it on top of the brood-frames of the queenless colony; close the hive up, and "let 'er go, Gallagher." You press the button, and the bees do the rest.

This method of introducing is no experiment. We have used it in our own apiary for a year back. Mr. Wardell, our apiarist, came to the conclusion that bees were eating out the candy too quickly, and sometimes releasing the queen before they had had a chance to become acquainted with her. He conceived the idea of nailing a piece of pasteboard over the candy as a restrainer, which, from his knowledge of bees, he thought they would gnaw away. The scheme worked perfectly. He thought so little of the invention that he did not tell me anything about it, and I presume he had been using the method for some six months before I happened to blunder on to it—that is, I learned that he had made an improvement in the ordinary method of introducing by the candy plan. He continued using it with the greatest success; but, as he used it, it was in connection with the Miller cage, which used just the same principle as the Benton.

Early this summer we applied the plan to all the Benton cages we sent out, and the results secured have been uniformly good. By the old plan, after the receiver of the queen had removed the cork the candy had been so much eaten by the bees, in some cases, after a long journey, that the bees would sometimes release the queen in from ten to fifteen hours, which is altogether too short a time; but now these same bees spend from twelve to eighteen hours in eating away the pasteboard before they get at the candy, and at the very least calculation it takes very nearly twenty-four hours before they can release their new queen-mother, and nine times out of ten it will be much longer.

I asked Mr. Wardell what per cent. of queens he could introduce safely by this method.

"Why," said he, "I do not lose any at all."

"Would it be safe," I asked, "to say in print that at least 99 per cent. of the queens introduced by that method would be received and accepted by the bees?"

"Why," he replied, "if I were using the Miller cage I think I could guarantee a good deal *better* than 99 per cent."

We have heard of many methods of introducing queens, but I do not think there has been anything yet devised that is so simple for the beginner and the average person to apply as the candy-pasteboard method. If the Miller cage is used (a flat oblong cage), and the colony has not been queenless for over four or five days, you can almost guarantee absolute introduction. The Root Co. would do so now; but the trouble is so many colonies to which queens are introduced have been queenless for a week or ten days that the bees get to depending on their cells, and then it is often very difficult to introduce to them a queen by any plan.—E. R. ROOT (*Editor*), *in* "*Gleanings*" (American).

Queries and Replies.

[2519.] *Bees in Frameless Hive.*—A neighbour of mine has what is intended for a frame-hive full of bees, but as there never were frames or quilts in it, the hive is quite built up full of combs which run from front to back and slightly diagonally. He wants the bees removed in order to get the honey, and also to

have the hive properly fitted up with frames and combs. I lifted off the roof, which is span-shaped, and in doing so the combs broke away an inch from the roof, thus rising up in the middle. There being several sticks running across the hive, and through the combs, the latter were supported and remained in position without breaking down; they may be built to the floor-board at the bottom. The bees have been in the hive for, I think, three years. I wish to know if I can, by closing the entrance and placing a large skep over the combs, drive the bees out, or what is best to be done? With thanks for previous assistance.—SLIEVE DONARD, *Newcastle, co. Down, September* 24.

REPLY.—There is no safe plan of dealing with the hive referred to (apart from destroying the bees) other than allowing the latter to transfer themselves next year to a hive placed below them. An experienced hand might be able to drive the bees out in order to appropriate the honey, and then cut out some of the comb for transferring to frames on which to winter the bees, but few amateurs could successfully get through the task with any chance of preserving the bees. It is too late in the season to try it.

[2520.] *Transferring to Standard Frames—Bees and Salt Water.*—1. I am quite an amateur bee-keeper, having only started last June, and should like a little information regarding (in the spring, I presume) the proper way of transferring my only stock of bees from their present hive (not made to hold the "Standard" frame) into one which takes the proper "Standard." I am making myself two "Cowan" hives, and have managed to get the bees of my stock to work out a few combs in "Standard" frames by placing the latter above their brood-nest in a temporary box. I have read Cowan's "Guide Book" through, and watched the B.B.J., but have seen nothing which, I thought, touched my case. I cannot transfer the frames as they would not fit. 2. I have, hitherto, always supplied my bees with salt-water, with piece of virgin cork for foothold, but until Friday last never saw a bee on it; strange to say, however, on that day, and since, they are constantly there. I think, probably, until now, may be I have made the water too salt. Is this likely? 3. Please give me your opinion as to the quality of enclosed sample of honey, which has been gathered in a suburban back garden near London.—GEO. S. FAUNCH, *Ilford, September* 25.

REPLY.—1. You cannot do better than follow the instructions given on page 140 of Cowan's "Guide Book" with regard to bees transferring themselves from skeps to frame-hives. The present hive will only need lifting from its floorboard and setting on the new hive, just as is advised in dealing with a straw skep. 2. Although bees are known to occasionally visit unpleasant places for liquids possessing saline properties, it is not advisable to provide salt water for them. Clean fresh water is by far the most suitable kind and best for any drinking troughs offered for bees' use. 3. Sample of honey in comb (badly smashed in post) is of very fair quality; indeed, very good for a suburban garden so near town.

[2521.] *A Novice's Experience in Uniting Bees.*—In asking for a little help with regard to a mishap following an operation I endeavoured to carry out, I send a brief history of my bee-keeping, so that you may be able to judge of my aptitude or otherwise for the work:—I began in June, 1899, with a swarm which yielded no surplus that year, but had to be fed in autumn. The bees were wintered on seven frames (in a hive of my own make made to hold seventeen frames) and came out all right last spring, when I again fed them and gave full sheets of foundation until the whole seventeen frames were occupied. I then put on a rack of sections, of which the bees soon took possession. On June 2, however, a large swarm issued, though the combs in hive-body were not all built out. I removed the unfinished combs but left on the sections. On June 17 a second swarm (weighing 3¾ lb.) came off and was hived on eight frames of foundation. After this the bees in parent hive became listless and inactive, and on inquiring of several bee-keepers about here as to the cause, was told it was from over-swarming. Later on, after removing surplus honey (about 30 lb.) from the first swarm, and getting the shallow-frames cleaned up after extracting, I had a look inside the hive and found some drones among the workers, but no queen or brood, and not much honey. There was also a lot of queen cells. The second swarm had begun storing in a box of shallow-frames, but when the bad weather began, in August, they carried the honey below, and I found the brood-nest pretty well stocked with food. I therefore decided to unite the bees of both swarms in the last-named hive, following the directions given in "Modern Bee-keeping." I first gave smoke and then floured the bees, then placed the frames of both lots alternately in one hive, flouring the combs as I went on. Fighting, however, began as soon as both lots got together, and next morning the floorboard of the hive was covered with dead bees. I left them for four days to settle down, and on again examining found two sealed queen-cells that I did not see when uniting the bees. I ought also to say that, although there was sealed brood in the combs of second swarm, there was no unsealed larvæ or eggs, nor did I see the queen. I would like you to point out what I did wrong, so that I may avoid such a mishap in the future.—NOVICE, *Treharris, Glam.*

REPLY.—After condensing above letter somewhat, and trying to connect your details a little closer for clearness, we think the

quarrelling among the bees when united must have arisen partly from your inexperience in joining-up bees and partly through the bees of the second swarm being in a bad mood for receiving strangers, consequent on loss of queen and raising a new queen for themselves at the time. Bees at such times often become jealous and irascible at the presence of alien bees in their hive.

[2522.] *A Lady Beginner's Troubles.*—I began bee-keeping only a few months since, and a week or two ago bought two more hives. These I find are in a very dirty condition, and, as no supers had been given, the bees were working on the top of the quilt. I removed a quantity of comb from the quilt, and find the latter is so firmly stuck down that it requires a chisel to scrape it off. From what I can see the frames appear to be full. The quilts are so rotten that they tear on being moved. 1. If possible to move them, should new ones be given now, and will it be possible to put on sections in the spring, in the state in which the hive now is? 2. From above quilts on the other hive I have removed nearly a bucketful of dead bees, and find the quilt rotten, and under it oilcloth covered with mildew. Needless to say, it will not come up. The frames seem to be full, and the bees working; what can be done to keep them during the winter and get them into working order in the spring? I do not know if I am asking for information in the usual way; if not, perhaps you will tell me.—B. A. M., *Easingwold, September* 25.

REPLY.—After clearing away all remains of the "rotten" quilts scrape the frame-tops and remove all débris; then replace the old quilts with clean ones, and cover the bees down snug and warm. If they winter well the hive will be ready for sections in spring. 2. The oilcloth, which prevents your raising the frames up, should be got rid of by all means. It should not be difficult to pull it away by starting at one corner, but an assistant would be helpful in using the smoker to keep the bees quiet. Then scrape away and remove everything in the shape of bits of comb so that the bees may be quilted down and kept exclusively confined to the body-box below. There must be no passage-way for them to come up above the coverings. Finally, and having bought bees and hives, you should invest in a guide-book on bee-management. Without some help in this way you can hardly hope to succeed.

[2523.] *Ridding an Apiary of Foul Brood.*—I have about thirty hives of bees in my apiary, and most of them, I am sorry to say, are affected with foul brood. I made artificial swarms of the affected stocks last spring, but the disease has again broken out. I should like to stamp it out once and for all during next season, and in the effort to do this I intend making artificial swarms of the bees as early as possible next spring. In view of this, I would ask:—1. Would it be advisable for me to spray the combs (as fast as the bees draw them out from foundation) with the phenyle solution mentioned in "Guide Book" every week until they have filled the brood chambers? I shall, of course, feed rapidly with sugar-syrup medicated with naphthol beta. Do you think I shall be quite sure to annihilate foul brood once and for all by these means? 2. If I scorch the insides of all affected hives well with the flame of a painter's spirit-lamp, will it be also necessary to paint over the scorched parts with carbolic acid? 3. Is solution No. 9 in new "Guide Book" equal to No. 10 carbolic solution as a disinfectant? If so, it is, of course, much cheaper. 4. Cannot frames from diseased hives be disinfected as well as the hives themselves? All the frames in my hives were new this season, and it seems a great pity to burn them. 5. Several of my colonies refused to enter supers during this season, so I gave them extra frames in the brood-chamber and they worked very well under those conditions. I took away all the frames some time ago, except six, on which I intend to winter the bees, as I think they have plenty of stores. On looking at them a few days ago I found three stocks queenless, and from the advanced stage of the queen-cells I judge that they all three colonies killed their queens about the time that I took away their surplus honey. Is there danger in removing combs from brood chamber in the middle of September? There was no brood in the combs I took away.—P. J. T., *Somerset, September* 28.

REPLY.—There is no need for spraying the combs as proposed, nor would it do any good to spray them. Continue feeding with medicated syrup until natural food comes in, and keep a close look-out on all brood, sealed and unsealed, in the early spring. May is the most trying month of all so far as regards the disease showing itself, but with care and extreme caution all may go on well, and bees come out healthy and strong. 2. No, the flame of the lamp will burn up all spores it plays upon. The only help painting gives in this case is to fill up corners and crevices where the fire will not reach. 3. Hardly so strong. 4. Yes, but new ones are very cheap and *safe*. 5. Yes, there is always danger of bees "balling" queens when manipulated in spring or autumn by inexperienced hands.

[2524.] *Moving Bees from a Hollow Tree.*—During a recent visit to the country near Folkestone my attention was drawn to a hollow tree (an ash) where a colony of bees had taken up their abode. The entrance was a hole which had been evidently made by a bird known as the tit, as it was 4 in. in circumference and 1½ in. at widest part across. I used a hammer to sound the tree, which I found to be hollow about 1 ft. 6 in. below and 1 ft. above the entrance. Next evening I thought I would like to secure the bees if

possible, so proceeded in following manner. I used a centre-bit and made a hole on the opposite side of the tree 10 in. below the level of the entrance. Inserting the smoker in this hole I gave some gentle puffs, but not half a dozen bees came out. On further examination I came to the conclusion that there was a very strong colony of bees there and a considerable quantity of honey. I enclose a sketch of tree, and beg to ask if you can tell me in B.B.J. (1) How to get the bees out? (2) Should I put a skep over the entrance when an attempt to drive them is made? I am a beginner of only two years standing, and have never had such a thing to deal with before.—W. BUTCHER, *High Wycombe, September* 25.

REPLY.—1 and 2. An inspection of sketch sent makes it very clear that the bees and combs can only be removed by cutting down the hollow tree in which they have made their home. A task such as the one before you is quite beyond the skill of any one not accustomed to bee-work of that kind. We think that any practical bee-keeper who examined the tree would confirm our view.

Echoes from the Hives.

Wimborne, September 15.—My stocks were very strong at the beginning of June, and the fields around were covered with clover, but the whole month was wet and cold. July was very hot and they then worked well. August was again cold and wet. The bees have, however, stored sufficient for themselves; some stocks have given surplus.—C. M.

Icklesham, Rye, East Sussex, September 29.—What hopes and fears have filled the breasts of bee-keepers since my last "Echo" appeared in B.J. of May 17. Skeppists had busy times with swarms, which to them mean grand times, but I fear their harvest of honey has been very small. There was abundance of fruit bloom about here, also hawthorn; then came the white clover, which looked splendid for bee-keepers, but our hopes were shattered by cold north winds, with mist and rain for a fortnight or so. Then, with improved weather, bees worked with a will while the bloom lasted. Of limes there are a few about us, and we have a little heather, but not much. My average take is about 35 lb. per hive, which I consider very good for this year, the honey also is of nice flavour, light in colour, and sells fairly well.—HENRY CLARKE.

HONEY PRODUCTION IN PALESTINE.

The American Consul in Jerusalem, in a recent report, gives an interesting account of the rearing of bees and the production of honey in Palestine, which has always been famous for its honey, although the methods in vogue were until lately very crude. The development of the industry by the application of modern methods of late years is due to a family named Baldensperger, which emigrated from Switzerland in 1849 and settled at Artas, seven miles north of Jerusalem, near the famous pools of Solomon. The father was always interested in bees and kept some in the native hives, which are long terra-cotta jars, and he aroused in his five sons an enthusiasm in the industry which has led to considerable results. In 1880 they really commenced the work under an American teacher, and soon adopted the plan of carrying the bees about from place to place for the best food. Thus from Ramleh they had the hives taken on women's heads twelve miles to Yafa, where the orange-blossoms were plentiful, so that in April there was an abundant harvest of this kind of honey, while at other times it was obtained from cactus and acacia blossoms. From another apiary and in other places harvests were obtained from lemon blossoms and from wild thyme. In 1884 the fifty hives at Yafa alone yielded 6,000 lb. of honey in less than a month. The Turkish officials soon cast their eyes on the industry as a source of taxation, and at first charged about 5d. per hive, but shortly after enormously increased the amount payable by counting every door, window, and hole through which the bees could be seen at work as hives, so that 150 hives counted as 2,000. After much litigation the Baldenspergers were found to owe the authorities £100 on account of a single apiary. This they refused to pay, whereupon the hives were sold by auction in Jerusalem at 5s. each, but when the officials came to deliver the hives to the purchaser, as they were bound to do, it was found that the bottom boards of the hives were unhooked, and the bees swarmed out to attack their disturbers. A compromise had to be made and the bees remained with their original owners. Then the local sheikhs demanded toll whenever an apiary was moved near their villages, otherwise the hives were stolen, fire or water being used to kill the bees. Indeed, now about a tenth of the honey has to be given away as blackmail. Occasionally even camel-loads of hives on their way from one feeding-ground to another are stolen by the Bedouins, so that the industry is beset by many obstacles, and calls for patience, tact, and perseverance. The Baldenspergers do a considerable business in exporting queen bees, and when their enterprise was threatened by excessive taxation they sold a large number of their hives to natives, whom they had trained, and to the Jewish colony in the plain of Sharon, so that there are now 700 hives at work in the country in addition to their own colonies. Queen bees exported by them have sold for as much as £3 each in America. All the honey produced finds a good market in Europe.—*The Times.*

Bee Shows to Come.

October 9 to 12, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c. Entries closed.

October 17, 18, 19, and 20, in the Waverley Market, Edinburgh. Bee and Honey Show in connection with the Edinburgh and Midlothian Industrial Exhibition. Classes (open to all) for three 1-lb. sections and three 1-lb. jars; also three heather sections and three jars extracted heather honey. Liberal prizes in each class. Schedules from A. T. Hutchinson, Secretary, 7, North St. Andrew-street, Edinburgh. (See advertisement on page v.)

November 15, at the Town Hall, Ludlow, in connection with the sixth annual exhibition of the Chrysanthemum and Fruit Society. Two open classes for sixes. Schedules, &c., from Jno. Palmer, Hon. Sec., Ludlow. Entries close November 6.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. HENDERSON (Ayrshire).—*Drone-Brood in Worker-Cells.*—1. The bees evidently raised a queen from cell seen on August 15, which, from some cause, has failed to mate. This is a far more feasible explanation of the drone-brood seen in worker cells than the "fertile worker" theory under the circumstances detailed. 2. The bees, having been so long queenless, are all old and, in consequence, not worth re-queening. The only way of utilising them is uniting to another stock if worth the trouble. 3. Not having your letter before us when replying *re* fermented honey last week, we had to defer answer to above queries till this issue.

F. J. P. (Penarth).—*Dealing with Foul Brood.*—If detected when in the incipient stage, spraying combs with soluble phenyle in solution, as recipe No. 8 in "Guide Book," will in many cases effect a cure, there being no spores to deal with. It is when the disease has reached a later stage, and the bacilli are replaced by spores, that the extreme difficulty in curing comes in.

S. B. C. (co. Antrim).—*The Fuchsia as a Honey-Plant.*—The fuchsia is noted in Dobbie's "Bee Pasturage" as yielding 40 per cent. of honey and the same percentage of pollen. So seldom, however, is the fuchsia grown in hedges—as in your case—that it is not usually included in lists of bee-flowers. The fact of your bees working so busily just now on the hedges referred to shows that honey is being gathered from it.

BEE-KEEPER (Bletchley).—There is no trace of food in comb received, nothing but pollen, and it tends to confirm the view we expressed on page 379 that bees have been robbed out and subsequently died for want of food.

S. X. (Newport).—*Introducing Queens to Driven Bees.*—Old bees are much less disposed to accept a strange queen than young ones are. 2. There is no better way of introducing under the circumstances named than by means of a queen-cage.

H. C. (Icklesham).—*Age of Queens.*—1. We should say one queen sent is of this year's hatching, but the other looks older. Bees and queens are just the ordinary or common kind. 2. The blooms sent are too much decayed for us to name the plant.

Honey Samples.

A. YOUNG (Yarm).—Except for lacking a little in density, your sample—mainly from white clover—is a very good honey, good in colour, flavour, and clear brightness. It is quite fit for the show-bench.

Suspected Combs.

W. W. (Swindon).—There is foul brood of old standing in several cells of comb now sent. In view, however, of the nearness of probable cold weather, and the fact of all combs in body-box being entirely free from signs of disease, we should not attempt moving the bees on to empty combs. Winter them where they are, medicate all food given, and keep a close look-out on hatching brood next spring.

S. B. C. (co. Antrim).—Foul brood is developing in larger piece of comb. The smaller sample has no brood at all in cells, or any trace of larvæ, so we cannot say anything as to its being diseased or otherwise.

E. T. P. (Yorks).—Comb sent is very badly affected with foul brood. With the "Guide Book" already in possession, we cannot do better than refer you to it for full directions as to treatment, beginning at bottom paragraph on page 151.

E. A. R. (Essex).—There are slight signs of disease in comb sent, which, also, from its condition indicates a worthless worn-out queen.

"HAMPSHIRE."—Comb contains foul brood.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, four strong STOCKS of BEES, one in skep. MISS COOKE, High House, Litcham, Norfolk. C 22

HONEY WANTED.—Send samples stating quantity, and lowest price. SOLE, Penchin, Llanidloes. C 25

EXTRACTED ENGLISH HONEY in 28-lb. tins. 11s. 6d. each, tins free, sample 2d. Deposit system. RICHD. DUTTON, Terling, Essex. C 12

WANTED, SECTIONS, clean, white, well-sealed, any quantity. Prompt cash. W. CHILBON, Southdown Apiaries, Polegate, Sussex.

200 HEATHER SECTIONS, clean and well-sealed, £7 10s. Satisfaction given for 15 years. WM. CASS, Rysea Apiary, Pickering. C 14

500 LBS. splendid EXTRACTED HEATHER and CLOVER HONEY. HY. WADDINGTON, Kirby Hill, Borobridge, Yorks. C 21

EXCHANGE 11 Prize Buff Orpingtons (Cook's strain) for Honey Wax or Bees' Appliances, &c. W. H. BROWN, 1, High-street, Shrewsbury.

EXTRACTOR (two frame and sections), cost 30s., will accept £1 1s.; quite new; approval. W. H. BROWN, 1, High-street, Shrewsbury.

PURE ENGLISH HONEY, 6d. lb.; second quality, 5d. lb. Sample, 2d. Cash or deposit. TWINN, Apiary House, Ridgewell, Halstead, Essex. C 23

("*Prepaids*" *continued on next page.*)

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—It will need going back for a long time to find a parallel to the autumn season now nearing its close. We are in the second week of October and the fine weather prevailing for many weeks past still continues; nor has the summerlike warmth been confined to any particular part of the kingdom, bright sunshine being the rule everywhere. None the less, however, have the great majority of bee-keepers had ample and just cause for terming it a disappointing season, in that the fine weather has come all too late to be of any service to them so far as regards the year's honey-yield, which must be set down as in the main unfavourable to all who have perforce to rely on the summer crop for their harvest. In isolated places here and there bees have no doubt done remarkably well in honey-gathering both for quantity and quality. These instances, however, only tend to accentuate the disappointment felt by many who by dint of persevering effort had brought their apiaries up to the best of condition, the hives "boiling over," so to speak, with bees and full of promise by the end of May, only to see bee-work brought to a standstill by adverse weather during the whole month of June.

The ultimate result following on the four or five weeks of enforced idleness in the apiary brings forcibly home the vital importance to bee-keepers of good weather in June. Not only so, but it proves what all past experience has shown to be true, viz., that genial warmth and sunshine during that month, combined with plenty of white clover bloom, constitute the two items or factors which go to make a good honey season, and without them more or less of failure is inevitable.

In saying this we do not wish to minimise the value of other bee-forage one bit, but whatever good comes from the earlier or the later sources of supply only adds to the main crop, which, in this country at least, is undoubtedly gathered from white clover.

WINTERING BEES.—In this, as in most other things, opinions differ, even among experienced bee-keepers. Thus, while one takes rather elaborate precautions in preparing his hives for winter by providing for the bees' comforts and wants present and prospective, another does very little beyond ensuring to each colony plenty of wholesome food and good ventilation, together with protection from cold and from wet or damp during the long winter months. The first-named may be said to represent the careful and thorough bee-keeper with leisure time in which to do everything well and make his wintering arrangements as perfect as possible. With this end in view he promotes late breeding by stimulative feeding in early autumn; this done, he contracts his hives by removing all frames not covered by bees, then cuts winter-passages in the remaining combs and arranges them in the best manner, so far as regards their contents being easily accessible to the bees. He next proceeds to carefully pack the space between hives and outer-cases with warm material, and then places a cake of soft candy beneath the warm coverings with which the tops of frames are protected. Finally, it then only remains to have roofs made secure and thoroughly watertight to complete the winter preparation. This method, supplemented by attention to the important points of securing for each colony a young prolific queen and plenty of bees, may be said to constitute the perfection of "wintering," including, as it does, all that is necessary to attain success.

On the other hand, the busy man with only time for rougher and much readier methods obtains almost equally good results by making sure of a good queen to head the stock, leaving the bees an abundance of natural stores, and protecting them from cold and wet. In the latter case all labour, worry, and upset in autumn are spared to the bees during what is called "feeding-up time," and if each colony is provided with plenty of bees, no ill result follows non-contraction of hives for winter. In short, the actual needs of the case are met by dealing intelligently with the essential points already enumerated, so that each bee-keeper may arrange his plans in accordance with his time and opportunities, and secure a satisfactory result either way.

DRIVEN BEES FOR BEGINNERS.—We have recently been made aware that

several readers of the B.B.J. are this autumn in possession of their first stocks of bees, and that the said stocks were made up from driven bees purchased early in September last. There would in this be little cause for comment but for the fact that our correspondents seem to imagine that a start so made is beginning bee-keeping under quite favourable conditions, and that next season will see them possessed of flourishing colonies from such a start. We sincerely hope their anticipations may be fulfilled, but something more is necessary than merely to buy a few pounds of driven bees late in autumn, put them in a hive with frames of foundation, and give some twenty pounds of syrup-food in order to ensure a good colony the following spring. Experience proves that unless the driven lots contain a large percentage of young bees, the chances of their doing well the following season are far from promising. That such stocks occasionally do well proves nothing except the buyer's good luck in getting young bees when purchasing. As a general rule, therefore, we do not advise beginners to rely on such stocks for a start unless along with the driven bees ready-built combs on which to hive them can be had at the same time. Without the desideratum last named the unfortunate bees have to start comb-building and food-storing at an altogether unseasonable time of the year, and the harmfulness of this forced labour becomes obvious when we bear in mind that a bee is so framed that its age is determined, not by the weeks or months since it first hatched out, but by the actual amount of labour it has undergone. Thus, to rest for a long time after the exhausting labour of wax-secreting and comb-building is not to recuperate and be able to start afresh with undiminished vigour after the winter is over. On the contrary, it means beginning work in spring as a more than half worn-out labourer instead of a lusty and vigorous one. Hence it is that bees bred in autumn go into winter quarters with bodies and functions unimpaired and in all respects ready for a full season's work. The disadvantages we have pointed out are, as already said, much reduced when built-out combs are available, but if started very late in the year there is the risk of the bees not sealing the food over after storing it, and thus being forced to winter on combs of unsealed syrup, which condition does not tend to "safe wintering." All this is, of course, well known to bee-keepers of any experience, but in view of the disadvantages inseparable from the cases under notice it is well to inform those who have now only such driven bees to rely upon that if success follows their first attempt at bee-keeping it will be more attributable to luck than good management.

Late Feeding.—We have had complaints of the trouble experienced in getting bees to take food offered them in quantity. As winter approaches there is, of course, increased difficulty in sufficiently rousing bees from their torpor to feed well; but in the present fine weather there should be no trouble in that line. It only needs to give the food *warm* after nightfall, without removing coverings, by setting on a thin board with a hole corresponding to those in the quilts. A little of the warm syrup poured in and just round the feed-hole, before setting on the feeder, will start the bees into activity, and the warmth of food and "feeder" soon coaxes them into the latter in great numbers; sufficient to take down a dozen pounds of syrup before morning, and the next evening be actively ready for a second supply.

Wintering Stocks on Short Stores.—Wherever bees are put up for winter on less than fifteen pounds of food, it should not be forgotten to supplement the "short commons" by a good-sized cake—weighing, say, three pounds—of soft candy beneath the quilts. This candy will usually be consumed before the food stored in the combs, and will greatly assist in carrying the colony over winter safely.

Foul Brood and Medicating Winter Food.—We earnestly hope that no reader has neglected the precaution of medicating all syrup given to bees for wintering on, cases of foul brood still being reported, and some correspondents are innocently inquiring "how to cure it without delay." It need hardly be said that little or nothing can be done at this late season by way of cure, beyond removing all combs containing dead brood, and wintering the bees on a few combs free from sealed cells with foul-

broody matter in them. This and the giving of medicated food—pouring the latter into the combs if necessary—and a few pieces of naphthaline on floor-boards, is all that can be done. Weak stocks now discovered to be affected with foul brood should be promptly destroyed, it being a waste of time—to say nothing of the risk to contiguous colonies—to keep such "weaklings" over winter in the hope of eventually curing them.

THE DAIRY SHOW.

The twenty-fifth annual show of the Dairy Farmers' Association opened at the Agricultural Hall, London, on Tuesday, the 9th inst., and continues till the 12th. We have only time in this issue before going to press to note the general excellence of the Show as a whole, reserving a fuller notice of the respective exhibits till next week. The weather was all that could be desired on the opening day, and we trust the attendance will be as satisfactory as the display well deserves.

The honey section was arranged in the Minor Hall—admirably decorated with plants and flowers for the occasion, and looked extremely well.

The judges were Mr. Walter F. Reid and Mr. Peter Scattergood, who made the following awards :—

Twelve 1-*lb. Jars* (*light*) *Extracted Honey* (32 *entries*).—1st (and B.B.K.A. Certificate), Fred. R. Ford, Burwell, Cambs ; 2nd, A. Joyce, Stockbridge, Hants ; 3rd, C. H. Poulton, Buntingford, Herts ; 4th, H. F. Beale, Andover ; 5th, John Smart, Andover ; h.c., G. Spearman, Andoversford.

Twelve 1-*lb. Jars* (*medium - coloured*) *Extracted Honey other than Heather* (38 *entries*).—1st, J. P. W. Lightfoot, Pickering, Yorks ; 2nd, Geo. W. Kirby, Longwell-green, Bristol ; 3rd, W. W. Drewitt, Normandy, Guildford ; 4th, H. W. Seymour, Henley-on-Thames ; 5th, John Smart ; h.c., J. H. Seabrook, Longfield, Kent.

Twelve 1-*lb. Jars* (*dark-coloured*) *Extracted Honey other than Heather* (14 *entries*).—1st and 2nd, H. W. Seymour ; 3rd, F. I. Hall, Lichfield, Staffs ; 4th and 5th (not awarded).

Twelve 1-*lb. Jars Extracted Heather Honey* (8 *entries*).—1st, Geo. W. Kirby ; 2nd, Wm. Sproston, Great Hayward, Staffs ; 3rd (not awarded) ; h.c., John Berry, Llanrwst, N. Wales ; c., J. P. W. Lightfoot.

Twelve 1-*lb. Jars Granulated Honey* (11 *entries*).—1st, John Hookway, Wellington, Somerset ; 2nd, John W. Lewis, Farnham, Surrey ; 3rd, P. B. Govett, St. German's, Cornwall ; 4th (not awarded).

Twelve 1-*lb. Sections* (11 *entries*).—1st, W. Woodley, Newbury ; 2nd, Mrs. A. M. Woodley, Newbury ; 3rd, P. B. Govett ; 4th (not awarded).

Twelve 1-*lb. Sections Heather* (4 *entries*).—1st, J. P. W. Lightfoot ; 2nd (not awarded) ; h.c., Matthew Smith.

Display of Comb and Extracted Honey (5 *entries*).—1st (and B.B.K.A. Bronze Medal), W. Woodley ; 2nd, Mrs. A. M. Woodley ; 3rd, R. Brown, Somersham, Hunts ; h.c., H. W. Seymour ; c, A. Canning, Wickham Heath, Newbury.

Beeswax (9 *entries*).—1st, Mrs. H. H. Woosnam, Bickington, Newton Abbot ; 2nd, H. W. Seymour, Henley-on-Thames ; h.c., John Berry.

Beeswax in Commercial Form (9 *entries*).—1st, John Berry ; 2nd, Geo. W. Kirby ; 3rd, A. Canning.

Interesting and Instructive Exhibit of a Practical Nature.—1st (and Silver Medal B.B.K.A.), F. Walker, Derby ; 2nd and 3rd (not awarded) ; h.c., H. W. Seymour.

Interesting and Instructive Exhibit of a Scientific Nature.—No award.

ROXBURGHSHIRE B.K.A.

ANNUAL SHOW.

The annual exhibition of bees, hives, and honey, in connection with the above Association, was held in the Queen's Hall, Jedburgh, on September 29. The total number of classes was twenty-four, in three of which—viz., collection of honey not under 60 lb. ; glass, or wood and glass, combined super of honey ; and new inventions in bee-appliances—there was no competition. The adverse season told upon the entries, as shown by the total weight of honey staged, being about 6 cwt., most of which, however, was of very fine quality.

An interesting collection of photographs illustrating the principal operations in bee-management were exhibited by Mr. John Clapperton, of Galashiels, and attracted much attention from visitors.

Messrs. Richd. Cairns, Balruddery, and Geo. Wilson, Kelso, judged the honey, and made the following awards :—

Collection of Honey.—1st, Jas. Whellans, Camptown.

Observatory Hive stocked with Bees.—1st, Adam Oliver ; 2nd, Jas. Kerr, Dumfries.

Twelve 1-*lb. Sections.*—1st, Jas. Kerr ; 2nd, Harry Wood, Lichfield ; 3rd, R. M'Andie, Edgerston.

Twelve 1-*lb. Heather Sections.*—1st, Thos. Clark, Pleasants ; 2nd, G. Yellowlees.

Hive, cost not to exceed 20*s.*—1st, Adam Oliver ; 2nd, William Swanston.

Six 1-*lb. Jars Granulated Honey.*—1st and 2nd, Harry Wood ; c., Thos. Clark.

Six 1-*lb. Sections.* — 1st, John Veitch, Carlisle ; 2nd, A. Oliver ; 3rd, Harry Wood.

Six 1-*lb. Sections* (*Heather*).—1st, Wm. Swanston ; 2nd, James Whellans ; 3rd, Wm. Mabon.

Five 1-*lb. Sections.*—1st, Adam Oliver ; 2nd, Thos. Clark.

Single 1-*lb. Section.*—1st, Thos. Clark; 2nd, Adam Oliver.

Two 1-*lb. Sections* (*Gift Class*).—1st, Jas. Kerr; 2nd, Jas. Whellans; 3rd, Thos. Clark.

Super (7 *to* 10 *lb.*).—1st and 3rd, Wm. Bell, Linton Mill; 2nd, A. Telfer.

Super (5 *to* 7 *lb.*).—1st, Jas. Kerr, Chatto; 2nd, G. Yellowlees; c., Jas. Kerr.

Super of Heather Honey.—1st, G. Yellowlees; 2nd, William Swanston; 3rd, Jas. Whellans.

Super of Heather Honey (7 *to* 10 *lb.*).—1st, Jas. Whellans; 2nd, G. Yellowlees; 2nd, Wm. Swanston.

Super (*not under* 10 *lb.; the prize super to become the property of the Association*).—W. Swanston.

Six 1-*lb. Jars Extracted Honey.*—1st and 2nd, James Kerr; 3rd, Harry Wood.

Six 1-*lb. Jars Extracted Heather Honey.*—1st, Thos. Pate, Milnathort; 2nd, James Kerr.

Six 1-*lb. Jars Extracted Honey.*—1st, Adam Oliver; 2nd, Thos. Clark.

Single 1-*lb. Jar Extracted Honey.*—1st, Jas. Kerr; 2nd, F. Barber, Romsey, Hants.

Beeswax.—1st and 2nd, Thos. Pate.—(*Communicated.*)

THE BEE-KEEPERS' CONGRESS AT PARIS.

Referring to the International Congress of Bee-keepers held in the Exhibition Building, Paris, on September 10, 11, and 12, and the absence of any official representative of this country on the occasion, we may here be allowed to express the general regret felt by British bee-keepers at the unavoidable absence from England of our Senior Editor, Mr. Cowan, who, but for the fact of being just now some 6,000 miles away, would no doubt have been unanimously invited to represent Great Britain at the Congress. On the other hand, we are glad to note that our American brethren in the craft were exceptionally fortunate in having among them one of the best-known and most prominent bee-keepers of to-day, Mr. C. P. Dadant, a gentleman of French birth and parentage, but now an American citizen, and thus eminently qualified to represent the country of his adoption. Mr. Dadant is the junior member of the firm of Chas. Dadant & Son, Hamilton, Ill., U.S.A., who are extensively engaged in the comb-foundation trade, and are also well known in this country as authors of the new and revised edition of Langstroth's work on "The Honey Bee."

Revisiting his native land for the first time since leaving for America thirty-seven years ago, Mr. Dadant spent some little time in France and Switzerland, and we much regret being away from town when he passed through London on the return journey, for we thus missed the pleasure of personally making his acquaintance.

Our disappointment was, however, in some measure compensated by a pleasant but all too brief visit from the other American delegate, Mr. J. T. Calvert, of the A. I. Root Company, who spent a few days in town prior to a more extended visit to the Continent. On returning, Mr. Calvert had a "business trip" among the more prominent bee-appliance dealers in this country, visiting England, Scotland, and Ireland, and no doubt—as Burns said—"takin' notes" on the way. Indeed, the completion of the poet's couplet, "an' faith he'll prent 'em," is, we see, being carried out, for in *Gleanings* of September 1 appears the first instalment of "Notes of Travel in Europe," by J. T. Calvert.

We shall look forward with interest to these "Notes," feeling sure that so keen an observer as Mr. Calvert—possessing as he does an almost unique experience as Business-Manager for many years of the most extensive bee-appliance factory in the world—will have something of interest to say of British bee-keeping as viewed by a broad-minded and intelligent American.

THE BASINGSTOKE BEE CASE.

COMPENSATION FUND.

	£	s.	d.
Amount already acknowledged	2	2	0
Since received :—			
George Dow, St. Mary Cray	0	2	0
F. W. M., Sompting	0	2	0
J. Rymer, Levisham	0	1	6
W. Patchett, Thoresway ...	0	1	0
G. A. Barnes, Thornton Dale	0	1	0
"Lex loquitur," Worthing...	0	1	0
March Bee-keepers (2nd list) :—			
Miss Wells	0	2	0
W. A. Harding	0	1	0
H. and E. Clarke	0	1	0
M. Carter and C. Carrier ...	0	1	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

BEE-NOTES FROM YORKSHIRE.

A SATISFACTORY REPORT.

[4097.] I am again sending you a few notes on the bee-doings in this part of Yorkshire. Fruit bloom yielded well, but the prospects

for a good yield from the clover and limes were, in common with other districts, not fulfilled, owing, no doubt, to the atmospheric conditions being in some way or other unfavourable. The clover here was one mass of bloom, the weather being very hot at the time. The bees also appeared to work hard, but very little honey was gathered. I managed, nevertheless, to get some beautiful shallow-frames of honey, and a goodly number of sections filled, together with a lot of unfinished ones, which latter had to be extracted. The drawn-out combs, however, came in well for the heather. The commencement of the heather harvest was cold and wet for about a week, then we had a very favourable time, and honey fairly rolled in. The weather, indeed, kept fine right up to the close, very few unfinished sections being the result, whilst the quality, as well as quantity, is far above the average, my average for the season being 40 lb. per hive, which I think, all things considered, is not bad, especially as I have not been able to devote as much time to the needs of the bees, as I ought to have done.

There appears to be a fairly good demand for honey, prices, if anything, being slightly better than last year, although the rush on the market at present tends to lower them a little. We are not able to compete with our Scotch friend, Mr. McNally, in regard to prices; a few orders at his price would, indeed, be a perfect treat. When I read your monthly, the *Record*, for October, I might almost be pardoned for saying that it fairly took my breath away, we having to be content with 3s. or 4s. less per dozen. It perhaps struck me more, as only a few days before I had a letter from a large firm of grocers in Manchester, to whom I had sent a sample of my honey, having dealt with them before. In this letter they stated that they had had offered them heather honey from our locality at 1s. per dozen less for jars and sections than the price I had charged them, and the sellers would pay carriage as well. There is not much wonder at our cottage bee-keepers grumbling as to prices, for some of the larger producers when they get a lot on hand apparently try to cut and undersell for the sake of getting the order. It seems a pity that when honey in most districts is scarce and fair prices can be had, bee-keepers should rush their produce on the market with an "I don't care what price, so long as I get rid of it" way. It is rather like the parson and his holiday coin. I must say I had far from a brotherly feeling for my neighbouring bee-keeper when I found this offer of his would make a difference of £4 in my account. However, bee-keepers as well as others appear to have their little crosses, and we must be like the busy bee—work hard and manage to make up for it.

Having been successful in obtaining the third-class experts' certificate, my spare time is more than ever taken up in looking after and examining bees for other people. It, however, gives me an opportunity for studying the requirements of the bees. I have almost finished packing and feeding for winter and am ready at any time for Jack Frost. I am commencing the winter with thirty stocks, in good condition, and with plenty of natural stores. Without doubt the main factor for success with driven lots is to get them fed up and warmly packed as early as possible. I see by this week's BEE JOURNAL that our neighbour and typical bee-keeper, Mr. Rymer, of Levisham, is going to give us his experience on non-swarming. There is no doubt he has got the "right address," and with the "Wells'" system, too. Had I more leisure I should feel inclined to try a few "Wells'" hives for his large returns tempt one on that rather risky path.—G. A. BARNES, *Thornton Dale, October 8.*

A FEW "NOTES" FROM THE NORTH.

[4098.] I some time ago bought Vol. III. of B.B.J., and in reading it I find on page 184 an article by the then editor Mr. C. N. Abbott, entitled "A New Method of Supering." It recommends inverting the combs so as to compel the bees to store the honey in supers. Doubtless you know of the article referred to. I would like to know your opinion of "inverting combs?" Is it practicable?*

I was much interested in this early volume of the B.B.J., but what struck me most—in the light of what we now know—was the great progress made in apiculture. One might almost say that it had now reached perfection. It is also gratifying to see the BRITISH BEE JOURNAL still "at the front" after all those years, and that it is now even more instructive and interesting than before. Long may it continue and prosper in its useful career.

This season is the worst on record here. It rained mostly every other day throughout the summer and constantly during the heather-season. So we got very few swarms and still less honey, depending as we do on the heather for our main honey supply.

Skep comb-honey sells easily here at 1s. to 1s. 6d. per lb. There are not many bee-keepers on the modern system in our parish, but they are increasing fast. In a year or two we ought to be able to produce large quantities of pure heather-honey, there being hundreds of acres of heather round us. In the spring we have the alder trees, which yield a plentiful supply of pollen, and so help on early breeding. Lucky for us we have no foul brood among the bees as yet, so that we are in a land "flowing with honey," when the weather is good, but, alas, this is not always. On the whole, however, I hold the opinion that any intelligent man with a liking for the craft, possessing the "British Bee-Keepers'

* After trial the plan mentioned has fallen into disuse and thus demonstrated its failure to secure the good results anticipated.—EDS.

Guide Book," and reading the B.B.J., is bound to become a successful bee-keeper, but it is well-nigh impossible to get on without them.

Though the weather this year has been disappointing to our hopes, we can say,

"There's a good time coming, friends,
Wait a little longer."

I will send my balance-sheet should you care to have it.—A. M. D., *Heather Apiary, Glenurquhart, N.B.*

HONEY PRODUCTION IN PALESTINE.

[4099.] The number of your esteemed BEE JOURNAL is just to hand for October 4, and I read with interest the article on "Honey Production in Palestine," reprinted from the *Times*. I also read an article from the same author (*i.e.*, the American Consul in Jerusalem) in the *Times*, and also reproduced in the *Sun*. Things seem to be either much confused or altogether misunderstood. From what I understand one of my brothers in Jerusalem inspired the "notes," but certainly they have in some way or other got "mixed up." The *Sun*, for example, says: "A Jewish family, the Baldenspergers, from Switzerland, came to Jerusalem," &c. The *Times* says: "Even camel-loads of hives were stolen by the Bedouins."

It is true I left Palestine nine years ago, and some incidents stranger yet than those I experienced whilst there may have occurred to my brothers, but I have not heard from them as losing "camel-loads of hives." In the next place, my father—an Evangelical Christian from Alsace, in which place our family had always belonged to the Lutheran faith ever since the days of the great reformers—was sent out to Jerusalem in 1849 as a missionary, and settled north of Jerusalem near the Pool of Solomon. The several difficulties mentioned in the article are sometimes far below the mark. The taxation difficulty seriously endangered the bee-industry, and although not the only cause, yet it in a great measure urged three of us to leave the country, two going to Algiers and one (myself) to France. The Algerian brothers returned again to Palestine, when the Turkish officials promised to be more reasonable in the future; but every European settler knows the worth of these promises, and, like the underground roaring of the volcano heard before the explosion, so are the Baldenspergers constantly on volcanic ground in Palestine.—P. H BALDENSPERGER, *Nice, October* 6.

LATE FORAGE FOR BEES.

[4100.] While the subject of "late forage" is being so very fully and justly discussed in your pages, I think it would be doing a service to bee-keepers to call their attention for this purpose to the merits of the "scented bee-clover" (*Melilotus officinales L.*). I procured some seed of same from Messrs. Carter, of Reading, and sowed it in the spring of 1899. The plants did not make an appearance until the spring of 1900, when they had grown to about 9 ft. high by June, and had commenced flowering about the third week of the month, since which time there has been a continuance of bloom until now (October 3). During the whole of this time the blossoms have been constantly visited by the bees in hundreds, notwithstanding the limes and, later, heather bloom. I gave it no attention in any way after sowing, so that it seems to me that almost any rough ground might be utilised. I am convinced that the *Melilotus* has this year conduced in a great measure to keeping the bees from robbing, which, as my hives are rather close together, is with me a constant source of probable trouble.

With regard to the discussion that took place at the October conversazione last year, *re* tasting sections, it was advanced against the practice that it spoiled the section, as the cell so uncapped would "weep." To stop this I have this season used an apparatus made as follows: Procure a small glass tube, sold by naturalists under the name of suction-tubes. These are about 3 in. in length, and have a bulb-blow in them about ½ in. from the end, which latter is drawn to a point. Now fit the larger end with an indiarubber ball and the apparatus is complete. To use same press the ball, insert tube in comb, release the ball, and the incoming air will, of course, carry the honey with it. The honey will stay in the bulb, where it may be examined as to colour, density, &c. I believe, even when the section is to be sold, that it gives a better appearance to exhaust all unsealed cells. A chemist's "dropping-tube," such as are used for filling fountain pens, &c., or a glass syringe may be used, but the apparatus I have described will be found to be the best.—WILL HAMPTON, *Richmond, October* 4.

PARIS EXHIBITION.

INTERNATIONAL CONGRESS OF BEE-KEEPERS.

[4101.] Just a few words with regard to the points mentioned on page 377 by Mr. E. H. Taylor—whom I had the pleasure of meeting in the Exhibition grounds—and on page 387, by Mr. W. P. Meadows, who, like myself, did not find time to assist at the banquet. As a Frenchman I think England ought to have sent a French-speaking delegate, and Mr. Taylor's remark on the fact of Great Britain being unrepresented officially was to my mind judicious and opportune. All delegates from abroad were familiar with the French language, as it was in French that the discussions were carried on. The limited time (a quarter of an hour to every speaker) was, however, a big nuisance, seeing that no idea could well be developed in fifteen minutes! Consequently those who did appear with prepared notes flung them down hurriedly,

so to say, and in a few well-applied sentences explained that it was no use to begin. Several foreigners who spoke French complained to me of the hurry, as they could hardly follow the several speakers' meaning. On the other hand, some very distinguished German and Russian bee-keepers, well acquainted with our language, were full of interest in the proceedings and all that took place.

Mr. Meadows is right in declaring the bee exhibits, especially honey, not of the nicest quality, but let me say, as an apology to my bee-keeping colleagues, the fault was rather with the administration, who asked so high fees that many did not exhibit at all. In fact, the honey, nicely put up, seen in Parisian grocers' shops, looked a good deal better than in the Exhibition grounds.—P. J. BALDENSPERGER, *Nice, October* 6.

HEATHER NEAR OXFORD.

[4102.] Will any reader of B.B.J. kindly reply, through its columns, stating where heather grows, on common land, most accessible to Oxford? I say "on common land," because it appears to be mostly private property and jealously guarded?—A. B. C., *Abingdon, October* 5.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of September, 1900, was £1,809.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

DISPOSING OF THE HONEY CROP.

Many bee-keepers, after having worked all summer, and produced a good crop of honey, almost "fool it away" when it comes to the marketing of the crop. Some lose it entirely by sending it to some irresponsible party. If all of the losses of this kind were known, I think some of us would be surprised. In my travels among bee-keepers, I am often surprised to learn how men of apparently good judgment have lost hundreds of dollars by sending a crop of honey to some swindler. Where is the bee-keeper who ships his honey to distant markets and has *never* been swindled? My losses in this direction have been very small—25 lb. of comb honey.

Above all other considerations towers this one of knowing, *positively*, within the range of human possibilities, that the firm to which you send your produce is absolutely honest and reliable. Better sell your comb-honey at ten cents to a firm that you know will pay you ten cents, than to a firm that offers you fifteen cents, but about the honesty of which there is the slightest doubt. This is so self-evident that it seems almost like folly to repeat it, but the transactions of every year show that such advice is abundantly needed. The strong point of these swindlers is that they offer just a *little* more than the market price. Not enough more to arouse suspicion, but just enough to lead the unsuspecting victim to believe that, all things considered, this market is the best. There is usually some plausible story goes with this offer—some apparently reasonable reason why this slight advance in price can be made.

Before sending honey to a firm, see how they are quoted in the commercial agencies. Consult their references if they give any. If they don't, then ask for references. This *alone* will not answer. Swindlers have a way sometimes of getting a fair rating in commercial agencies' books, or of getting good references from some bank by depositing money that may be withdrawn later. A good rating and good reference count; but, as I have said, they are not everything. In addition to this, I would advise a shipper who is in doubt, to write to the bee-journals. A great mass of correspondence goes through the hands of an editor. If a firm is shaky, or is not dealing fairly with its customers, the editor is sure to get a hint of it right away. If a firm does not pay, or is unfair in any way, the first thing the victim does is to write to his editor and ask him what to do. A great many things come to an editor in this way that he may not feel at liberty to publish. If he did, he might lay himself open to libel; but he can give to a subscriber, privately and confidentially, what it would never do to publish.

After the question of honesty and reliability is settled, comes that of ability and experience. To handle honey to the best advantage and get the best prices a man must know something of the business. I frequently hear of some man sending honey to some commission firm, perhaps because he has been sending it other produce, that knows almost nothing about the honey-business. In such cases honey is almost sure to be sacrificed.

Then there is occasionally a dealer or commission man who, while he may be an out and out swindler, that is, he may make some kind of returns for the goods consigned him, yet there is always something wrong. Either the honey is badly broken, or the packages are leaking, or the bottom has dropped out of the market since the shipment was made. I don't mean to say that none of these things ever happen, but there is occasionally a firm that makes such reports, when it thinks it safe to do so, even when they have not happened. Then there are some firms that are very slow pay. As I have said before, write to your bee-keeper editors. All of these things come to their knowledge.

The question of whether a man shall sell his crop out and out, or ship on commission, is one that has been much discussed. Both plans have their advantages and disadvantages. If sold out and out for a certain price that has

been agreed upon, there is no uncertainty and no chance for a dispute or dissatisfaction. The shipper knows exactly how much he is to get for it, and when he will get it; provided, of course, that he is dealing with a reliable firm. On the other hand, a dealer can afford to pay as much cash down, using his own money, as he might be able to get for the goods if he had them on commission. There must be a greater margin for profit if he buys them and puts his own money into them, than when he is doing business on the capital of the shipper, and the latter is taking the risk of a change in the market. If the dealer buys the goods he must buy them at such a price that he can afford to put his own money into them, and then take his chances of making the profit. There has been a lot of talk about the commission man doing business on the other fellows capital. It is true that he *does*, and that is the very reason why he can afford to do it on a less margin.

Much has been written and said in favour of developing a home market, and of every man selling his own honey, and all that. If a man has a good home market, or can develop one, or if he is a good salesman, such a course is all right, but the best locality for producing honey is often a very poor one for selling, and the best bee-keeper is sometimes the poorest kind of a salesman. In such cases it is wisdom to seek distant markets, and to employ somebody to do the selling.

There comes the question when to sell, and it is the most puzzling of any. When there is a large crop the tendency of prices is downward. The man who sells early, before the fall in prices, is fortunate. Knowing this, there is a tendency to rush the honey into market when it becomes known that there is a bountiful crop. This puts the prices down still farther; and the bee-journals have been blamed for reporting large crops because such reports tend to lower prices. If there is a short crop it seems to be all right to report it, as it tends to raise prices.

This matter of when to sell is one of those questions that each man must decide for himself. If there is a short crop, generally, and prices are advancing gradually, it certainly seems safe to hold honey a reasonable length of time. As a rule, however, I would not hold honey until winter. Brother York recently advised his readers to sell at once if they could get a fair price; and mentioned fourteen cents as what he would consider a fair price for comb-honey. I think that he is not far out of the way. If I had honey to sell I should hold it at fifteen cents. If I could get that I should let it go. If not, then I should hold it and watch the market. It may possibly go a cent or two above that, but I doubt it.

In closing, I can only repeat what I said at the beginning: Having worked hard and produced a crop, don't fool it away. Don't send it to a swindler, nor an irresponsible or inexperienced commission man, but thoroughly investigate the whole matter, and market your honey in a safe, intelligent, and profitable manner, instead of simply sending it off haphazard, and then "kicking" yourself afterwards for some loss that might have been prevented.—*Condensed from Editorial in Bee-Keepers' Review (American).*

WEATHER REPORT.

WESTBOURNE, SUSSEX.

SEPTEMBER, 1900.

Rainfall, ·75 in.	Sunless Days, 1.
Heaviest fall, ·34 in., on 27th.	Above average, 47·7 hours.
Rain fell on 8 days.	Mean Maximum, 63·9°.
Below average, 1·72 in.	Mean Minimum, 45·5°.
Maximum Temperature, 69°, on 16th.	Mean Temperature, 54·7°.
Minimum Temperature, 38°, on 4th.	Below average, 0·2°.
Minimum on Grass, 25°, on 4th.	Maximum Barometer, 30·69°, on 12th.
Frosty Nights, —	Minimum Barometer, 29·70°, on 27th.
Sunshine, 225 hrs.	
Brightest Day, 3rd, 12 hours.	

L. B. BIRKETT.

Queries and Replies.

[2525.] *Introducing Queens to Driven Bees —"Balling" Queens.*—In the last week of August I bought two lots of driven bees with queens. On arrival I found that the queens in both lots were dead, so I put them all into one hive and introduced an Italian queen, which was well received by the bees. On looking over the combs a week or so after introduction of queen I could not see any eggs or brood, and on further examination three weeks later there was still neither eggs nor brood. I am told that it is the general rule at this season of the year for queens to cease laying, and therefore ask—1. Is this likely to be the case? 2. Seeing that the bees only cover about five frames now, is it likely that they will survive the winter? They have stores gathered from the heather, and I have been feeding them a little, but fear they have not quite enough. 3. Is it too late to feed up with thick syrup, or shall I put candy into the hive? 4. Is a mile too far for bees to travel to the heather? 5. What is meant by bees "balling" a queen? I am only a beginner, but have received much help from "Guide Book," B.B.J., and *Record*.—IGNORANT, *Rothbury, October 8.*

REPLY.—1. Egg-laying does, no doubt, cease for the season in many hives after the month of September, but in your case, if the driven bees are engaged in comb-building, the

necessary heat required for that purpose should stimulate the queen to recommence ovipositing. We should, therefore, expect to find eggs or brood in combs if the queen is all right. 2. They may survive, but it will depend on the age of bees and the quality of the queen for their coming out well next season. 3. If syrup is given warm there is still time for storing because of the exceptionally fine weather now prevailing. 4. Bees will readily travel one mile to heather. 5. "Balling" is a term applied to the act of bees when, for some reason, they seize a queen (sometimes their own mother-bee) and, confining her in the centre of a compact ball of bees, hold her there till she dies.

[2526.] *Bees Deserting Hives in September.*—We are sending two pieces of comb for inspection, and if you have space for a word or two of reply we shall be obliged. We much fear it is foul brood, but as beginners we have not had sufficient experience to judge for ourselves. We commenced bee-keeping in 1897 with one skep, and our apiary now contains thirteen colonies, five in skeps and eight in frame-hives. All our frame-hives were examined the first week in June, and found to be progressing very favourably. We took honey from two colonies which seemed likely to give a good yield. Another stock seemed promising, so we put on a doubling-box with frames fitted with foundation. The bees took to them and stored honey for over a week, then refused to work any more. Soon afterwards a very large swarm issued and was hived. We examined the swarm some weeks afterwards and found no surplus honey, but plenty of bees. Last week we again opened the hive and found it quite deserted, with the exception of a few straggling bees. Not a cell contained any honey. The piece of comb numbered 1 is from hive above mentioned, while the piece number 2 is from the straw skep which has been deserted same as frame-hive alluded to above. We have inquired of neighbouring bee-keepers respecting the bees deserting, and find they have had much the same complaint as ourselves, together with a very poor yield of honey. We could have secured more honey by removing it at the end of June or the beginning of July than we got by leaving it in the hives till three weeks ago, and should be pleased to know why the quantity was reduced so much in consequence of our delay. It seems a mystery to us.—W. & J. Lilcombe, *Cowbridge, Glam.*

Reply. — There is no disease in either sample. The cells in both pieces of comb are nearly full of fresh gathered pollen. No. 1 from frame-hive has been bred in, but the cells are honeyless but quite choked with pollen. No. 2 is new comb, never bred in, and it too is blocked up with pollen. From the few details given above it looks as if the bees of both swarms had deserted their hives from sheer want of food. It is more than probable they have gone back to the hives they came from.

[2527.] *Covering for Bees Located in Damp Places—Superfluous Pollen.*—My two hives of bees are standing near a small stream. At this time of the year there are often heavy mists rising from the water. I have quilts of American-cloth on both hives, but it has struck me that this cannot be a quite suitable covering for the frames on account of the damp atmosphere. I therefore ask — 1. What material would be the best for the purpose? or would you recommend me to move the hives as far away from the stream as I can? The latter will not be at all convenient to the household. 2. Does a very large quantity of pollen (not old or dry) in a hive at this time of the year denote prosperity or otherwise?—Amateur, *Stechford.*

Reply.—1. A single covering of calico next the frames and several thicknesses of woollen material above will be the best covering under the circumstances. Experience has also shown that a board laid over the last-named material helps to retain the warmth with no evil effects as regards non-through-ventilation. 2. A superfluity of pollen in combs at this season is disadvantageous because all cells filled with old pollen are rendered useless for brood-rearing till cleared out by the bees.

[2528.] *Bees "Balling" Queens.*—While painting my hives to-day (October 6) I noticed that the bees in one hive were very unsettled, and while watching them I saw the enclosed queen brought out of the hive by the bees dead. They have since been running all round the hive front as wild as can be. Will you please let me know through the Bee Journal if she is a virgin or a fertile queen, as I have never yet seen a virgin queen-bee? If she is a fertile queen it will mean uniting the bees to another stock or getting another queen. They are a very strong stock, every frame full of bees. This is the first queen I have had cast out dead since I began keeping bees fourteen years ago, but have only had frame-hives for five years. I have now got eighteen stocks in frame-hives. I have taken 2 cwt. of super honey from five of them. I do not take any honey from brood-chamber. I could have given the bees that have lost this queen another three weeks ago, as I have had six at one time from driven bees, as I drive many skeps in this district. Please let me know what you think best to do in this case in this week's Journal, if possible.—G. H., *Marton.*

Reply.—The insect sent is a fully-developed adult queen bee, and, no doubt, fertile. It bears evidence of having been badly "balled," all the lower joints of the *tarsus*, or foot, being bitten or torn off from both hind legs, besides other damage to legs and wings. Without information as regards the combs in hive from which the queen was cast out having been manipulated recently, we may say that bees not unfrequently "ball" their own queen

when excited by untimely manipulations, especially in spring, and less often in autumn. This has, we think, occurred in your case, if not by handling the combs, by the jarring or noise caused by painting the hive. In any case the stock is evidently now queenless, and there is no other remedy than re-queening, or else uniting the bees to the next stock.

SCHOOL FOR FARMERS.

The Hampshire County Council has just established at Old Basing, about two and a half miles from Basingstoke, a farm and horticultural school, with the object of providing such practical and technical instruction as shall turn out better farmers, dairywomen, and housewives.

Both youths and maids will be admitted, and the instruction will be kept as far as possible on practical lines, with just enough science to secure a proper understanding of farming operations.

The curriculum will include the general work of a farm, butter and cheese making, poultry and bee-keeping, cookery, needlework, laundry work, elementary agricultural chemistry, botany, how to combat injurious insects, &c. The farm comprises sixty-one acres, and the buildings include a large detached house for students.—*Daily Mail.*

Bee Shows to Come.

October 9 to 12, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.

October 17, 18, 19, and 20, in the Waverley Market, Edinburgh.—Bee and Honey Show in connection with the Edinburgh and Midlothian Industrial Exhibition. Classes (open to all) for three 1-lb. sections and three 1-lb. jars; also three heather sections and three jars extracted heather honey. Liberal prizes in each class. Schedules from A. T. Hutchinson, Secretary, 7, North St. Andrew-street, Edinburgh.

November 15, at the Town Hall, Ludlow, in connection with the sixth annual exhibition of the Chrysanthemum and Fruit Society. Two open classes for sixes. Schedules, &c., from Jno. Palmer, Hon. Sec., Ludlow. Entries close November 6.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. L. (Sydenham).—*Granulated Sections.*—1. We thought all bee-keepers knew that in course of time honey will granulate solid in comb just as it will in jars. 2. It is, of course, perfectly "wholesome" for table use, though necessitating the consumption of a certain amount of wax along with the solid honey.

BEGINNER (Maidenhead).—*Wintering Weak Stocks.*—A colony of bees "which only covers four standard frames" on October 1 is not a promising "stock" for facing the coming winter, whether in a single or a double walled hive; in fact, if its weakness in point of numbers is not due to some outside cause we should not try to winter the stock without first adding more bees.

J. W. H. L. (Lincs).—*Joining Bee Association.*—You are probably confounding the B.B.K.A. with the County Association in saying that several bee-keepers in your neighbourhood have been "asked to join the British Bee-keepers' Association." The Hon. Secretary of the Lincs B.K.A. (Mr. R. Godson, Tothill, Alford) will, no doubt, afford full information regarding the advantages of membership if written to on the subject.

LANCELOT QUAYLE (Isle of Man).—*Diagrams for Lecturers.*—The set of coloured diagrams on "The Physiology and Anatomy of the Honey Bee and its relation to Flowering Plants," published by the B.B.K.A., may be had from this office, price 4s. 3d. post free.

MUTINE (Marlow).—Honey is from mixed sources; its distinctive flavour and aroma, however, is from heather.

M. P. (Uplyme).—Both samples contain heather honey in sufficient proportions to give to each the characteristic flavour which distinguishes honey from that plant. No. 2 is a good deal better than No. 1, the latter being thin and not well ripened. No. 2, on the contrary, is a nice sample of mild heather honey.

Suspected Combs.

VERACITY (co. Carlow).—*Spores of Foul Brood.*—1. It has been shown that it takes over two hours' boiling to effectually destroy the vitality of foul brood spores. 2. The wax sent, besides being very dark in colour, smells as if got from mouldy combs. The colour may be improved by adding a small quantity of sulphuric acid to the water in which it is boiled.

NOVICE (Hants).—Combs sent are clean and bear no trace of brood, foul or otherwise. There are, however, a few larvæ of the small wax-moth in the combs, which latter bear evident signs of the bees having repaired former ravages of the wax-moth larvæ. This should be cleared out of the hive thoroughly before using it again.

B.B.J. READER (Horsford).—Queen at head of the stock is a drone-breeder, but there is no sign of disease in comb sent.

W. T. C. (Brighton).—Comb contains "chilled brood" only. No trace of disease.

Editorial, Notices, &c.

THE FINAL SHOW FOR 1900.

HONEY EXHIBITION AT NEWCASTLE-ON-TYNE.

The announcement made on page 385 of B.J. for October 4 referred to what was at the time supposed to be the final honey shows for 1900. We are, however, now asked to supplement the remarks then made by inviting attention to still another and final show of bee-produce for the present year, viz., the Great North of England Grocers', Bakers', and Confectioners' Exhibition, to be held at Newcastle-on-Tyne from October 31 to November 7 next. Full particulars will be found in our advertising columns (page v.), and we commend it to the notice of exhibitors as another show promoted in the interest of trades likely to deal in honey and bee-products.

We are also glad to note that the arrangements connected with the honey department are entrusted to Mr. W. Herrod, who will supply schedules and full information regarding entries. The staging of exhibits and return of same are also in Mr. Herrod's hands, a fact which will tend to relieve the minds of exhibitors with regard to safe handling and packing. The time is short for making entries, and it is satisfactory to see that the schedule includes classes for honey trophy, sections, and extracted honey, light, medium, and dark in colour; together with separate classes for heather honey, both sections and extracted. The show will afford an opportunity for our Northern readers especially, which we trust they will avail themselves of by entering the competition.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 11th inst., in the Board Room of the R.S.P.C.A., Jermyn-street, W. In the absence, owing to indisposition, of Mr. W. H. Harris (Vice-Chairman), Mr. E. D. Till presided, and there were also present the Hon. and Rev. Henry Bligh, the Rev. W. E. Burkitt, Major Fair, Miss Gayton, Messrs. H. W. Brice, W. Broughton Carr, J. M. Hooker, R. Hamlyn-Harris, Henry Jonas, J. H. New, A. G. Pugh, W. F. Reid, P. Scattergood, F. B. White, E. Walker, C. N. White, and E. N. Young (Secretary). Beyond fixing the date for the examination of candidates for the second-class certificates of the B.B.K.A., which will be held on November 16 and 17, the business was purely formal. On its conclusion, preparations were made for the conversazione.

CONVERSAZIONE.

The autumnal quarterly conversazione was held as usual at the offices of the R.S.P.C.A., 105, Jermyn-street, on Thursday, October 11, when the spacious Board was crowded with bee-keepers attracted to London by the Dairy Show. Among the assemblage present were :—

The Hon. and Rev. H. Bligh, Rev. W. E. Birkett, Col. A. Fishe, Major Fair, Messrs. R. T. Andrews, F. Brett, H. W. Brice, H. H. Brice, F. F. Bernan, John Brown, E. Bontoft, W. H. Beaumont, W. B. Carr, F. Chapman, A. G. Cross, Spencer Canning, J. Dean, S. Dickenson, D. H. Durrant, F. S. Elliott, H. Edwards, F. R. Ford, J. Garratt, F. E. B. Gunyon, W. Gadsby, J. E. Gunyon, J. M. Hooker, Will Hampton, R. Hamlyn-Harris, W. A. Hardy, Henry Jonas, O. Lambert, R. Mossop, W. P. Meadows, J. H. New, J. G. New, L. Newman, A. G. Pugh, O. Puck, J. Perry, H. Penfold, R. Peters, W. F. Reid, J. W. Rogers, H. Rowell, J. Scattergood, H. Sayers, H. W. Seymour, F. W. L. Sladen, W. J. Sheppard, E. D. Till, F. B. White, C. N. White, T. W. White, A. H. Warren, W. Woodley, C. Whiting, M. J. White, F. Hastings White, E. Walker, Geo. Wells, C. F. Wakefield, F. J. White, J. Waterfield.

There were also present several ladies, including Miss Gayton, Mrs. H. W. Seymour, Mrs. F. Brett, Mrs. H. Sayers, Mrs. Penfold, and Mrs. R. Peters.

Mr. Till presided, and after a few introductory remarks invited the exhibition and explanation of appliances, or any other objects of interest to bee-keepers.

Mr. C. N. White showed a useful appliance made of tin with perforated chambers for straining honey from cappings.

Mr. W. F. Reid showed samples of "Pastilles au Miel" from the Paris Exhibition, also how a circular earthenware (telegraph) insulator could be used for preventing ants or other insects from crawling up the legs of hives. The best form of insulator was that known as Bright's shackle, which had two cups and a central protuberance. The appliance would have to be inverted so that the two cups could hold liquid, and a large screw placed in the central channel and fixed with a little Portland cement. It was then ready to screw on to the bottom of the hive legs. These insulators had the advantage that they could be applied to an ordinary hive by means of a cross girder or piece of wood, instead of the usual vertical legs. He had used them in Brazil where the soldier-ant and others were an intolerable nuisance. The cost of the insulators was about 2d. each. He also produced samples of indurated cardboard, which had been used very successfully for separators for two seasons, and would clean well. It was very hard cardboard, and could also be used for circular sections. He then exhibited a nickel-plated comb, which was made in Germany by G. Heibenreich (Sonnenburg, Neumark), and which was used in that country for uncapping, but he only recommended it to English bee-keepers for stimu-

lating in the spring. Mr. Reid afterwards showed some metal ends used in Germany, but he considered them inferior to the well-known "W.B.C." end.

Mr. Hamlyn-Harris said, in connection with the metal comb shown by Mr. Reid, it was a common practice in Germany to use an ordinary wire brush for uncapping, which could, of course, be washed from time to time. He thought that an improvement on the metal comb shown by Mr. Reid, as it was not so apt to tear the wax in operating. When he came over from Germany some months ago he brought with him some bottles of honey-liqueur, and now produced one just to show the way in which the cork was treated, it being dipped in wax. He had never seen the same thing done at English exhibitions. The cork was dipped in wax, mixed with propolis, which gave it a tenacious tendency, and the appearance of it gave a finish to the bottle. In the B.J. of September 20 there appeared a report in his "Reviews of Foreign Bee-papers" from a German paper, in connection with a substance called "propolisin," and he thought the subject interesting enough to bring before the meeting with a sample. "Propolisin" was a remarkable product, medically used in liquid, not salve form as many supposed. It was considered to be a wonderful antiseptic, and had been employed successfully for wounds in South Africa. It was supposed to take the place of iodine, and some experiments showed that with about 3 per cent. emulsion of the liquid certain bacteria were killed off in two minutes, and other bacteria in three minutes. This "propolisin" was stated to be very useful for foot and mouth disease. The mixture was also said to be very rich in oxygen and carbonic acid gas in a liquid form, and contained another alkaloid at present unknown. With regard to "propolisin" Mr. Harris would like to know, seeing that its antiseptic properties had been proved, what the general opinion was as to its efficacy in the treatment of foul brood?

Mr. Reid, who had examined the bottle and smelt its contents, said that the liquid smelt of benzoline, and might be a germicide. Mr. Brice suggested that the germicidal properties probably existed, if at all, in the "unknown alkaloid."

Mr. Reid said that propolis when taken out of the hive always contained wax; generally it was nearly half wax, and wax invariably contained propolis, except when just secreted. It was possible to separate five or six different substances by the use of various solvents, but what those substances would do, or whether they were specific antiseptics, it was difficult to say. The bees themselves used propolis as their chief antiseptic. They would cover over objects of aversion (such as a dead mouse) which got by any means into their hive with wax and propolis—always the latter—and they would cover over the antiseptic provided for them with their own, which was better. A large percentage of propolis would be found in the dark cappings of cells containing foul brood.

Mr. Hamlyn-Harris, in concluding the discussion on "propolisin," stated that the researches made by the inventor of the compound in question were sent up to the Medical Officer of Health for Prussia, and the latter gave his certificate that all the chemical and bacteriological properties thereof were as claimed.

The Chairman then called attention to the Hants bee-keeper who had been made to suffer at Basingstoke for the alleged action of his bees, and invited a subscription to recoup their unfortunate comrade in the loss he had sustained. He thought there was no doubt the man had suffered wrongfully. He understood that the horse was tethered, and therefore had no chance of escape. He (the chairman) did not wish to excuse a careless bee-keeper, but in the present case there was no evidence of that kind. It was, however, difficult to appeal against a County Court judgment, and therefore he thought the best encouragement they could afford would be to subscribe, so as to relieve Mr. Longley from his difficulties. The defendant had no doubt lost his cash, but it was equally certain the plaintiff had lost his conscience. The material loss might be made good, and he suggested that those present should subscribe, if possible, 2s. 6d. each towards that end.

Dr. Andrews said that, singularly enough, the solicitor for the prosecution had asked him to inspect the bees, but had not requsted him to give evidence in Court. He (Dr. Andrews) was not, however, at liberty to offer his evidence on the other side. The man kept his bees in a most fair way; there were about nine or ten stocks in home-made frame-hives of modern type. They were not placed against his neighbour's hedge, which was 5 ft. or 6 ft. high, but two yards away. Taking into account also the fact that the horse was tethered, and therefore could not get away nor defend itself, he thought the man was hardly treated.

Another gentleman—whose name did not transpire—said the horse had been ill previously and was not well enough for work. He did not believe that bee stings caused its death. The defendant, Mr. Longley, was a young man trying to get on and had only recently recovered from twelve months' illness.

Mr. Scattergood was fully in accord with those who desired to help the young man, but, at the same time, thought that from the bee-keepers' point of view it would be desirable to fight out a case of the kind. The decision referred to was regrettable, chiefly because it gave judges and lawyers a precedent to work upon; and it was now very important to endeavour to secure a precedent on the other side.

A considerable number of donations were then handed in, Mr. Carr being kept busy for some time in noting the names and amounts.

The Chairman, in reply to an interrogator, thought it unadvisable at present to form a committee with the object of working up a defence fund to support the victims in similar cases to that of the Hants bee-keeper.

Mr. F. B. White—whose opinion as a solicitor was invited—said he was always sorry to see any decision against the interests of apiculture, and would have been pleased if the case had been settled out of court or defended properly. As already stated the danger was in the precedent afforded. He recommended that every bee-keeper should, if served with a summons or attacked in any way, lay his case before the B.B.K.A., who would be glad to look into the matter and advise whether the case was worth defending, and perhaps lend assistance to that end.

(Conclusion next week.)

THE BASINGSTOKE BEE CASE.

COMPENSATION FUND.

The liberal response made at the Conversazione on the 11th inst., together with a few other donations reported below, warrants us in deciding to close the above fund next week, by which time we shall no doubt have received the few contributions not yet to hand from those who, in effect, promised to assist.

	£	s.	d.
Amount already acknowledged	2	15	6
Since received :—			
Five Sandbach Bee-keepers : T. R., E. V., E. E., F. P., and J. G. S.	0	5	0
S. E., Sandhurst	0	2	6
W. H. Piper, S. Devon ...	0	2	0
H. Smith, Woodmancote ...	0	1	0
E. Reed, Wickford	0	1	0
H. May, Kingston	0	1	0

Collected at the B.B.K.A. Conversazione :—

	£	s.	d.
Hon. and Rev. H. Bligh ...	0	5	0
W. T. Joyce	0	5	0
J. H. New	0	3	0
Ernest Walker	0	2	6
E. H. Young	0	2	6
R. Hamlyn-Harris	0	2	6
F. B. White	0	2	6
W. F. Reid	0	2	6
E. D. Till (second donation)...	0	2	6
R. Hunton	0	2	6
M. Mossop	0	2	6
Geo. Wells	0	2	6
C. W. Whiting	0	2	6
F. W. L. Sladen	0	2	6
F. Chapman	0	2	6
F. R. Ford	0	2	6
J. M. Hooker	0	2	6
F. Brett	0	2	6
J. E. Ganyon...	0	2	6
H. W. Brice	0	2	6
P. Scattergood	0	2	6
A. G. Pugh	0	2	6
W. P. Meadows	0	2	6
O. Lambert	0	2	6
F. J. B.	0	2	6
F. Lambert	0	2	6
Dr. Elliott	0	2	6
O. Puck	0	2	6
A. J. Cross	0	2	6
C. T. Waterfield	0	2	6
Will Hampton	0	2	6
F. R. Alden	0	2	6
F. Sayers	0	2	0
H. Penfold	0	2	0
R. Peters	0	1	6
W. Dear	0	1	6
E. Bontoft	0	1	0
H. Sayers	0	1	0
W. Gadsby	0	1	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4103.] The careful, painstaking bee-keeper will be anxious to see that outside work in the apiary is brought to a speedy close. Stocks fed up for winter should have the quilts and cushions carefully tucked in and put on preparatory for the colder weather we may soon get, and where feeding up has been neglected, it should be done at once, and finally a cake of candy put over the feed-hole of quilt. Bees will rarely seal over syrup-food so late in the year as this, and as the cake of candy will most likely be consumed at the same time as the late-fed syrup, the bees may thus use up some of the moisture in the latter to reduce the candy. After the candy is put on, wrap it up to keep the damp from it.

Then the roofs of hives will be requiring attention. See that they are made waterproof and secure against rough winds ; the position of the apiary will give the cue in this matter. It is getting late for painting hives, but the roofs will be safer against rain if given a coat of paint. The lightest stone colour or white will be best for resisting heat in the sunny days of June.

I have just returned from the 'Dairy Show," the last of a trio of honey exhibitions in the Great Hall at Islington. With regard to the "Confectioners'" and the "Grocers'" I was sorry to see such a poor response made by the bee-keeping fraternity to the efforts of

the Managing Directors to foster the honey-trade. There were only four trophies at the first show, and at the "Grocers'" only two! Fancy valuable money prizes going a-begging for want of exhibits to carry them off! Then the apathy of bee-keepers in not trying to take advantage of showing their wares at one of the largest shows, to which grocers in thousands from all parts of the kingdom attended, does not say much for our enterprise and business tact. I quite expected to meet a dozen competitors at the "Grocers'" in the trophy class, instead of which there was only Mr. Kirby and myself. For the future welfare of bee-keeping I hope the directors of these exhibitions will accept our plea of a poor season, and that the weather has not been suitable during the past summer for large takes of honey, and that next year bee-keepers will rise to the occasion, and with an effort make a show worthy of the growing industry of bee-keeping. There is nothing in the schedule preventing dealers in honey from exhibiting in the "Trophy Class" with honey purchased in the usual way of trade.

The "Dairy" trophies were better represented, five exhibits being staged, all of good quality. The class for honey of "medium" colour on the show-bench that proved exhibitors are not taught in one lesson how to grade their extracted honey into the colours required (as shown by the squares of coloured glass sent out by Mr. Young, the secretary). I noticed the darkest lot in the show staged in the "medium" class. No doubt, as time goes on we shall improve in this matter. With regard to the granulated honey class, I would suggest that another year the heather honey be shown in a separate class, otherwise I fear there will be a falling off in the entries in this class, and I should be sorry if we had no object-lesson for the public to see that honey in granulated condition was worthy of recognition on the show-bench. I mention this as a "pointer" from remarks made by bee-keepers, who I felt that, judging by the awards, ordinary honey (or what our Scotch friends call "flower honey") has not the ghost of a chance in competition with honey partly, if not wholly, gathered from heather.

Then the "wax class," for wax in cakes suitable for the retailer should, in my opinion (and I have had many years' experience in the retail trade), be of such kind and shape as are most suitable for the various requirements of that trade. Among these "requirements" are those of the sempstress or tailor, who needs a small lump for trade use; the mistress of the house, who must have a larger piece for waxing the floor of the hall or dining-room; and the housewife, who requires an ounce tablet to mix with turpentine as "furniture polish." In none of these cases is wax of light colour any advantage. The old-fashioned cake into which our grandmothers used to mould the wax, met the requirements of the old-time grocer or oilman, but things are changed since we used (thirty years ago) to make up the 1, 2, or 4 oz. as wanted by breaking the cakes as received from the old style bee-keeper. To-day the grocer is wont to study every little item which saves labour, and he would no doubt be "keen" on the wax offered him in cubes or small cakes such as were staged in the class. Those of a shell pattern shown were too thin and easily breakable when handled. Quality of wax in this class is not so important as shape; in fact, only a "commercial wax" is required. Light-coloured wax will always bring a better price from the foundation-maker than the grocer, and the dark coloured wax is most suitable for floor-polishing, &c.—W. WOODLEY, *Beedon, Newbury.*

THE DAIRY SHOW.

THE QUEEN-RAISING EXHIBIT.

[4104.] As some surprise was expressed that my exhibit in Class 79 failed to secure recognition by the judges, perhaps you will allow me to supplement the explanation I gave at the B.B.K.A. conversazione, by saying that, although duly entered, my exhibit was not staged until some hours after the judges had made their awards. Desiring to make my exhibit as interesting and complete as possible, I conceived the somewhat daring (considering the time of year) idea of including the actual construction of queen-cells during the course of the show; and wishing to start the bees cell-raising as late as possible before the opening of the show, I tried, unavailingly, to secure permission to stage my exhibit on the morning of the opening day (Tuesday, the 9th inst.). This would have allowed me to set the cells early on Monday, but, as permission could not be obtained, I had to perform the operation on the afternoon of the previous day. Then, in order to leave the cells in the hive as long as possible, so as to secure for them as favourable a start as could be managed in the circumstances, I delayed arranging the "live portion" of the exhibit until the afternoon of Monday. Unlooked for difficulties, combined with a couple of slight mishaps—the result of haste—had a *finale* in the observatory hive being ready only a short time before the time-limit for staging (6 p.m.) had arrived. I then "wired" to the secretary of the show asking permission to stage the exhibit on Tuesday, "not for competition," and, Tuesday bringing permission, it was duly staged, though somewhat belated. The same cause prevented the staging of my entered exhibits in each of the classes for beeswax.

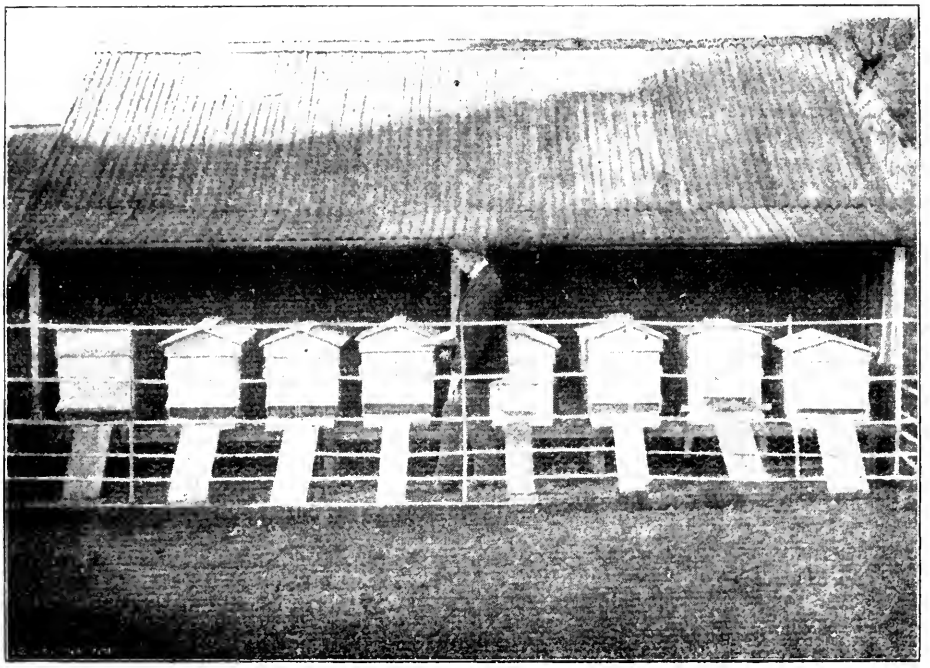
Although, of course, an award would have been appreciated, the interest my exhibit excited has fully compensated for the somewhat large amount of trouble necessitated by its preparation involving, as it did, the construction of a special observatory hive.—H. EDWARDS, *Ashford, near Staines, October 13.*

(*Correspondence continued on page 410.*)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The somewhat uncommon looking apiary seen below belongs to a young Leicestershire bee-keeper, Mr. Arthur H. Peach, who, it must be confessed, has adopted a rather prosaic arrangement in laying out his "bee garden." Though not quite picturesque, however, it looks very workmanlike, and the substantial shed seen in rear of the hives will, no doubt, afford useful protection for winter; for, as we learn, Mr. Peach—when the hives are packed at close of the honey season—moves his stocks along with the wooden bench on which the hives stand, a few feet backward, so as to bring them under cover and shelter the bees on three sides from cold winds. In the early springtime of the following year, or when the bees begin to fly freely, the hives are again moved out into the open and guarded in front by stout iron hurdles, as seen. These latter have wire netting along the lower edge to keep out fowls. This arrangement, apparently, combines the advantage of a bee-house for winter, along with the benefit of hives standing in the open during the hot weather of the busy season.



MR. ARTHUR H. PEACH'S APIARY, OADBY, NEAR LEICESTER.

In answer to our request for a few "notes" on his bee-keeping experiences, Mr. Peach writes:—

"My apiary is situated about four miles from the town of Leicester, near the village of Oadby. The hives, as you will see from photo, are very common-place looking, owing to no trees being shown, though we have plenty about. In fact, we could not get all my twelve hives into the picture, and so, to make it show the hives and the shed arrangement, it was thought best to take a front view of eight hives as they stand. At the back of shed are the fowl-runs, and in winter we move the hives rearward so as to get them quite under cover of the shed. This shelters them from cold winds and severe frost. And when brought forward in summer there is plenty of room to do all work in manipulating, supering, &c., by leaving a good wide pathway in the rear of the hives. We also fix up hurdles in front to keep intruders away. The district is a good one for honey production, our main crop coming from clover and the lime trees.

"Most of the bee-work is done by myself, but when I am away in the swarming season the swarms are hived by the groom, who can manage that part very well. I have kept bees for about seven years, and some time ago joined the Leicestershire B.K.A. which I find a great help. On the other hand, I have rendered some assistance to the association myself in secretarial work and visits to members to help them with their bees. We have a good-sized greenhouse near the bee-shed and in this I am able to extract the honey and

jar it off. All my appliances, stock of store-combs and many things a bee-keeper needs are kept inside our dwelling-house. I am also careful to keep an account of every hive with full particulars for ready reference, as I consider a well-kept book of this kind is indispensible for good bee-management. You will see that I adopt the plan of providing a good-sized alighting-board reaching from hive entrance to the ground. These are most helpful to heavy-laden bees when reaching home tired after long flights. I would not on any account be without the bees so long as I lived in the country, as I consider them a most interesting and enjoyable feature of country life."

CORRESPONDENCE.

(*Continued from page* 408.)

THE DAIRY SHOW, 1900.

A FEW NOTES ON THE AWARDS.

[4105.] Once more the "Dairy Show" has come and gone, and while the exhibition of 1900 is fresh in our memories I should like to make a few suggestions with regard to next year's show. No doubt my remarks will be thought out of place, as, being an exhibitor at the late show, I shall be accused of self-interest; but I hope bee-keepers generally, and exhibitors especially, will accept what I say in good part.

Now, I take it these shows are intended to educate the public as to what good honey is like, as much as to benefit exhibitors. The schedule of 1900 does not seem to me explicit enough. With regard to the class for twelve 1-lb. jars of granulated honey, the 1st and 2nd prizes went to heather honey; consequently, the winning honey was very dark in colour, instead of being nearly white. I am sure it will have a damaging effect on granulated honey in future if this kind of judging is continued. I do not say anything against the quality of the honey which won, and, of course, there is nothing in the wording of schedule to prevent heather honey being shown. Exhibitors have been taught to exhibit granulated honey as light in colour as possible, and I should not dream of sending a dozen of dark-coloured stuff like the winners, because the bulk of our judges would not trouble to open a jar of honey that colour. I therefore venture to suggest that in the class for granulated honey the following words be added: "Other than heather honey." There were some splendid samples of granulated honey staged which were not noticed by the judges. I did not exhibit in this class. The "Commercial" Class for Wax was also disappointing, the judges giving the prizes to the best quality wax, which in a commercial class, I think, should not be done. The 1st prize lot was of beautiful quality, but I doubt whether the exhibitor could supply 100 lb. of a similar quality and price as the sample staged. It seems to me simply ridiculous to encourage this kind of wax when the question is not one of quality, but "utility." There is a separate class for wax of high quality, and exhibitors should enter their *best wax* in that class. On the other hand, they should put good honest "commercial" wax in the "commercial" class. To overcome the difficulty the schedule might be worded—"Quality of wax not taken into consideration by the judges," in addition of present wording.

Of recent years there has been a good deal said *re* the number of prizes offered, hence classes for "dark" and "medium-coloured" honey have been added. But at the recent show certain prizes were withheld, which in several instances I could not understand. I should like to know who will benefit by this system? When an exhibitor receives his prize schedule he usually looks to the number and value of prizes offered and makes his entry on the chance of winning, and he certainly expects to see the full number awarded. I know there are rules in the schedule to the following effect:—"No second or lower prize will be awarded if there are less than six entries," and also "no third or lower prize if there are less than nine entries, except on the special recommendation of the judges." For several years past this rule has been ignored by the judges and the full number of prizes awarded. Some years ago when the rule was strictly enforced the entries gradually fell off to such an extent that in the "Display of Honey" class the entries were so small that the class was taken out altogether. Another rule is that an exhibitor can make three entries in a class and win three prizes if his exhibits are of sufficient merit. What I would suggest is that no exhibitor shall take more than one prize in a class, and if it is desired to spread out the prizes, debar all first prize winners of 1900 from competing in the classes they win in at the 1901 show.

I also think that all exhibitors should leave the honey-department during judging, and that the judges ought not to be admitted until exhibitors have left. I do not make this remark without good reasons for doing so, and consider that judges should be as careful as exhibitors in this respect. I hold that no judge should have a chance of knowing who stages exhibits. These large shows are generally very strict in this respect, and if the judges do not know the proper course to pursue, it should be the attendants or stewards' place to inform them. In conclusion, I hope other exhibitors and bee-keepers will come forward and express their opinions, with a view to improving the present state of affairs.—H. W. SEYMOUR, *Henley-on-Thames, October* 15.

NOTES FROM THE WEST OF IRELAND.

[4106.] How strange it sounds to hear in our editor's "Useful Hints" of the 11th inst.

of "fine weather" and "summer-like warmth." Here, since September 20, we have had nothing but a succession of gales and heavy rain, only varied by an occasional gleam of watery sunshine, and this kind of weather seems likely to continue. Bee-keepers in this district—mostly cottagers and small farmers—are disappointed, but not discouraged. The help which they get from the Congested Districts Board is a great thing for them. Would not the small bee-keepers in England think themselves fortunate if they had paid instructors in each district, supervised once a year by such a competent and enthusiastic expert as Mr. O'Bryen; hives and appliances supplied at the most moderate rates and easy terms of payment, and if foul brood makes its appearance and the bees are destroyed, an allowance of 5s. for each stock and frames, &c., if burnt, supplied again free? Truly, Ireland has not much to complain of from the bee-keeping point of view. Of course, this only applies to the "Congested Districts," of which there are many near me; but the Board is doing a good work, and it deserves to be known and appreciated.

These will be my last "bee-notes" from Ireland. Alas! I depart to "fresh fields and pastures new." My bees have found other homes—except two nice swarms, which I could not bring myself to part with—they are snugly reposing in their travelling boxes. My next "notes,' if any, will be from "Gloucestershire"—where I expect to find honey-dew, yellow cappings, and may be foul brood! As I have before remarked, I do not think Irish honey can be surpassed for quality. I do not see any Irish exhibits at English shows—probably the risk in transit prevents this. It is a pity, for I feel sure honey from the "Emerald Isle" would hold its own on the show bench.

Referring again to Cyprian bees—I showed my stock to Mr. O'Bryen about a fortnight ago—a time when you would expect bees to resent being pulled about—we went over the whole of the frames as he wished to see the Queen; they were *crowded* with bees, and neither of us got a sting. Mr. O'Bryen was delighted with them, and said they were as quiet as any bees he had ever handled. As regards their beauty, there cannot be any question.—C. A. P., *Co. Kerry, October* 13.

FOUL-BROOD LEGISLATION.

[4107.] After reading the letter of a correspondent regarding foul brood in the B.B.J. of September 27 (4091, page 378), and your remarks at foot, I cut it out and sent it to our Member for the Ashford Division of Kent, Mr. Lawrence Hardy, and requested him to give it his careful consideration. There can be no doubt that legislation to prevent the dissemination of foul brood is much needed in order to protect the pockets of the small agriculturists, many of whom keep bees, and to these the loss of even a hive or two through the effect of foul brood is a serious matter. My appeal has been favourably received by Mr. Lawrence Hardy, who I feel sure will give any legislation on the subject his support. I trust that others have approached their Members in the same manner. If so, we may hope that something will be done to mitigate the ravages of that pest, foul brood.—STANLEY EDWARDES, *Sandhurst, Hawkhurst, Kent, October* 9.

[We, too, venture to hope that Sir Stanley Edwardes's timely action has been followed by other readers, because it has been only too clearly shown that the bar to progress in the past, so far as securing the attention of Members of Parliament, is the entire want of knowledge on the part of the latter with regard to bee-keeping or the damage to the industry by the ravages of foul brood.—EDS.]

LATE FORAGE FOR BEES.

A BEGINNER'S SUCCESS WITH DRIVEN BEES.

[4108.] The letter of your correspondent "Will Hampton" (4100, page 400) has led me to write a line as regards some presumably similar seed which I bought from Messrs. Carter. The name in their catalogue was "*Melilotus alba*, or sweet-scented clover." I put in the seed in May last, and it has since grown to about 3 ft. 6 in.; it did not flower much, only a few heads reaching that stage. The flower was white and small, with a very large number of blooms on each stalk, and while flowering it continued growing, constantly sending out more flower stalks. I have now cut it down for the winter, but I should be glad if your correspondent could tell whether mine is the same plant as his, as I cannot understand its not coming up at all during the summer of 1899. The honey season in this district has been very disappointing, the yield being considerably less than half that of last year, and a large part of that too dark in colour to be of any use.

As I am only a beginner it would perhaps be interesting for you to hear that my bee-driving has been very successful this year. I drove about ten lots of bees the first week in September without losing a single queen, and in no case had I the slightest difficulty in getting the bees to build combs and store and seal their stores by the end of that month. I hope they may turn out in spring as well as they promise to do now. I think my success was chiefly due to the great care I took with regard to warm food and wraps. — C. A. ATCHLEY, *Willsbridge, Bristol, October* 12.

MY FIRST BEE SEASON.

[4109.] I am now in a position to give you my experiences as a beginner, and which according to other accounts of beginners, will compare very favourably, I think.

I began last year entirely ignorant of the

ways of bee-keeping. I purchased three lots (swarms) in skeps which were much weather beaten and out of shape, early in July last year. I got them home (four miles) with pony and trap and placed them on a stand in the garden. I let them remain there until last spring, when I placed two of them in frame-hives, according to your instructions. The other skep I found to be queenless, and it has now dwindled down to a few bees; so it must take its chance now.

Last May I purchased two more stocks in frame-hives. One is really a double hive, either body-box fitting on the top of the other. From these two stocks I secured a splendid "take" of surplus-honey this season. I got them safely home (six miles) after packing carefully, and placed them in a position somewhat away from my other hives. I then started making my boxes to hold the shallow-frames, and when these were ready I supered in good time and so prevented swarming. They filled five supers between them, including a body-box (used as a super) with eleven brood frames. The two other hives I supered with one box of shallow-frames and a rack of sections respectively.

When the proper time arrived, I took off the supers from the four hives and extracted at convenient periods. The result was a total weight of 157 lb. surplus honey. I estimate that only 40 lb. of the foregoing total was taken from the two hives being transferred from skeps to the frame-hives, so that 117 lb. would be the result of the two strong stocks I purchased last May. Is not this good for a beginner? The hives were certainly in good trim when I bought them, but they were well looked after. I discovered that in transferring I had put a queen excluder on before the bees had established themselves below, so I had to let the skeps remain on top of frame-hives.

I placed the supers on the top bars of frames and the skeps over the supers, and had a bit of a job in removing them. I have sold all my honey except 43 lb. at 1s. per lb. We are keeping the sections for our own use. I owe my success in a great measure to the "Guide Book," along with the JOURNAL and *Record*, all three of which I take a great interest in. I have to thank you for your kind help to me through your answers to my queries from time to time. I should be pleased to hear of your opinion of my "take."—W. H. Buck., *Doseley, Dawley, Salop, October* 13.

[Your first season has been a very satisfactory one indeed.—EDS.]

Echoes from the Hives.

Rannoch, N.B., October 11.—This has been an exceptionally unfavourable bee season in this district. A neighbouring bee-keeper had a hive very strong in the month of June, and wishing to increase his stock he did not put on supers. The weather, however, was so wet, cold, and windy, that the bees did not swarm till the end of July. The swarm was, therefore, put back, but only 16 lb. of honey was got from it. I had a strong swarm on July 22. I gave it seven frames fitted with full sheets of foundation. Within a week after being hived attempts were being made to rob it. These continued all through the season. I intended asking your advice on this, but kept putting it off thinking it would cease, but it did not, and the bees now only cover three frames. They have been carrying in pollen all through the summer and were doing so yesterday; but why robbing should be attempted so persistently during even the "height of the season" I know not. Hope for better luck next year.—J. A.

Queries and Replies.

[2529.] *Wintering Bees on Combs of Uncapped Food.*—I have been compelled to feed some of my colonies of bees, and last week I examined them before closing up for the winter, and found a very large proportion of frames filled and capped over half-way down, but the remainder of the combs were filled with uncapped syrup nearly to the bottom. I therefore ask, will the bees condense the moisture in this food and then cap it over? If not, what will be the best course to adopt? I cannot extract the unsealed food as advised in "Guide Book." When last examined I should think there was from 15 lb. to 20 lb. of uncapped food in one hive.—ENQUIRER, *York, October* 12.

REPLY. — Bees will not seal food still remaining uncapped in mid-October. The best course, under the circumstances, will be to place the uncapped food outside the cluster of bees, and those sealed half-way down in the centre. We should if at all possible extract the unsealed lower half of three or four of the combs mentioned as being "sealed half way down."

[2530.] *Unfertile Queen in October.*—I purchased a swarm in June last and placed the bees in a frame-hive fitted with nine frames of foundation. It also had a rack of sections on top, and the bees worked well all the summer. Being a new beginner, I only made an occasional examination of combs in body-box, but when the season was about over I had a look, and I did not like the appearance of the brood; it was too much scattered, and I fancied some drones were being hatched in worker-cells. In consequence of this, on September 6 I transferred the bees and combs into a new non-swarming hive, placed a super-clearer on top of frames, and set the rack of sections above. I removed the sections next day, but did not take off the clearer till the 12th, when I again examined the combs, and this time found

several queen-cells (at least six), some sealed over, and one containing an unsealed larva of a young queen. On other side of the same comb I noticed young worker-brood unsealed, about same age as the unsealed queen. I then suspected that the old queen was dead or had been killed, and therefore ask :—1. Was I right in thinking this? The bees were then very strong, and are so now, but as I could never find a queen on combs at any time, I let things go on till to-day, October 10, when I happened to be looking at bees, and was surprised to see a queen come out and fly about the entrance. She then alighted under porch for a moment and then took wing. Not being able to stay longer, I did not see her again. I would, however, like to know :—2. Do you think this was a young queen going out for fertilisation, or simply the old queen out for an airing flight (the day being very fine and warm)? 3. Does an old queen ever fly about the hive entrance or go out at all? Also, what would you advise me to do in this case? The bees are strong and have plenty of sealed stores, but when examined to-day no brood or eggs at all were seen. I have another swarm, purchased in August, but would not like to interfere with them as they are now in nice condition.—DAVID ADAMS, *Strabane, Ireland, October* 10.

REPLY.—1. The details given make it quite certain that in transferring the bees and combs on September 6 the old queen has been lost or killed. 2. In view of what is said above, it is more than probable that the queen seen on the 12th inst. is a young one hatched from one of the queen-cells described, and the fact of her being still unfertilised is accounted for by there being no drones now on the wing. 3. It is a very rare thing to see a fertile queen leave the hive for an "airing flight." If you cannot get a laying queen to head the stock, there is no way of utilising the bees save uniting them to the other colony.

[2531.] *Non-swarming Hives.*—1. I notice in recent numbers of BEE JOURNAL some correspondence respecting "Non-swarming Hives," and shall be very glad to know which principle you recommend in carrying out the non-swarming hive idea. Some are made with the entrance for bees underneath the spare chamber, in which case the bees of course pass through these frames in reaching the brood-nest above ; while others are made with the entrance between the brood-nest and spare chamber; the tops of frames in the latter thus answering the purpose of floor-board for the bees. 2. Do you not consider it an advantage for the spare frame-box at bottom to slide out instead of having to lift off the brood-box, &c., before being able to get at it?—F. E. CORY, *Exeter, November* 10.

REPLY.—1. Not having personally tested the non-swarming hives mentioned, we cannot give a reliable opinion as regards the respective or comparative merits of each. Both plans will, no doubt, in a great measure prevent swarming, but whether one has an appreciable advantage over the other is a moot point. 2. There can be no doubt of the advantage of a sliding lower-chamber.

[2532.] *Ridding an Apiary of Foul Brood —Moving Hives in Winter.*—In the B.B.J. of October 4, in reply to "P. J. T.," on page 392, you recommended as a cure for foul brood "feeding the bees on medicated syrup until natural stores began to come in. 1. Did you mean feeding during the winter? I ask this because I have understood from the best bee-books that syrup-food should *never* be given in the winter. 2. Being in a difficulty about moving my hives, will you please give me some advice under the following circumstances :—I have several hives standing in a small piece of garden about 100 yards away, and it is absolutely necessary to move them into the garden of the house I am now occupying before next spring. It cannot be done by moving the hives a yard at a time, as both the road and a brick wall intervene. I therefore ask, Would it do, during bad weather, perhaps in January, to put a piece of perforated zinc over the entrances and confine the bees to the hives for about three weeks, or would they suffocate?—K. CONDER, *Bognor, October* 9.

REPLY.—1. The reply given on page 392 dealt with the proposal to make artificial swarms of the affected bees in spring and feed them while comb-building. There was no question of feeding during winter. 2. If the stocks are moved after the bees have been kept indoors by frost or cold for two or three weeks, there will be no need to confine the bees by closing entrances.

[2533.] *Bee Seasons of the Past Seven Years.*—Will you kindly tell me what has been the character of each of the past seven seasons in respect of honey production in Great Britain, quality and quantity both considered? Being only a beginner in the craft, I have not the literature by me by which I could judge for myself, and I have no doubt other neophytes like myself would welcome the information, as it would enable us to gauge and compare the measure of our success (or want thereof) as the seasons pass along. Also, which counties or districts of the island have been found most favourable to apiculture?—T. L. REEVES, *Herts, October* 10.

REPLY.—We fear your inquiry involves more research than we can afford time for. Perhaps some reader with the necessary leisure—so seldom in reach of editors—will kindly look up past volumes of B.J. and afford the information asked for.

Bee Shows to Come.

October 31 to November 7, at St. George's Drill Hall, Newcastle-on-Tyne. — The Great North of England Grocers', Bakers', and Confectioners'

Exhibition. British Honey Competitions open to all bee-keepers. Classes for Honey Trophy, Sections, Extracted Honey, and for Extracted Heather-Honey. Schedules and particulars from W. Herrod, Horticultural College, Swanley, Kent. (See advertisement on page v.).

November 15, at the Town Hall, Ludlow, in connection with the sixth annual exhibition of the Chrysanthemum and Fruit Society. Two open classes for sixes. Schedules, &c., from Jno. Palmer, Hon. Sec., Ludlow. Entries close November 6.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

"WALES" (Pwllheli). — *Responsibility for Damaged Exhibits.*—You would hardly succeed in obtaining compensation from show authorities for damage to exhibits on return journey, there being usually a proviso in schedules to guard against responsibility in this respect.

J. V. (Cumberland).—*Air-bubbles in Heather Honey.*—Sample sent is a very nice heather honey. Good on all points. You cannot remove the "air-bubbles," nor is there any need to do so.

M. D. P. (Chislehurst).—*Unfinished Sections.*—If you cannot extract the unsealed honey we should cut out such portions as you wish for table use, and use the partly-combed sections next year. If left in the sections the unsealed honey would granulate.

*** In consequence of the large amount of space in this issue occupied with matters connected with the Dairy Show, our promised comments on the exhibits are unavoidably held over till next week. We are also compelled to defer to same date a report of the Northumberland and Durham B.K.A. show, together with some letters and queries already in type, all of which will appear in our next.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

HALF-CWT. HONEY, rather dark, £1 in tins. LILLY-WHITE BROS., Westerton, Chichester. C 44

HELENIUM BOLANDERI, great favourite with bees; strong plants, 9d. each. Post free. SANDS, Rednal Cottage, near Barnt Green. C 43

100 WELL-FILLED SECTIONS of HONEY, mostly White Clover. Price on application. J. TREBBLE, The Apiary, Romansleigh, South Molton.

ENGLISH and ITALIAN BEES FOR SALE, in frame hives. T. HILL, Scotlands, Cannock-road, Wolverhampton. C 56

FOR SALE, strong STOCK in new hive, sufficient stores for wintering, 21s. Deposit system if preferred. MASON, Limes Grove, Lewisham. C 45

WANTED, good light-coloured CLOVER HONEY. Samples and price, including tins, to GEO. DUFFIELD, Dragon Junction, Harrogate. C 46

FOR SALE, 12 doz. 1-lb. sections, well finished, excellent quality, packed and on rail, £4 10s. ERNEST DAVIS, Great Bookham, Surrey. C 42

EXTRACTED ENGLISH HONEY in 28-lb. tins, 6d. lb.; tins free, sample 2d. Deposit system. RICHD. DUTTON, Terling, Essex. C 54

FOR SALE, several SKEPS of BEES. Good workers, 10s. each. ANN RICHARDSON, New Cottage, Kievaulx, Helmsley, Yorks. C 53

Prepaid Advertisements (*Continued*).

WANTED, quantity good coloured BEESWAX in 10-lb. lots and upwards. State price. JACKSON, Fernshill, Cradley, Malvern. C 52

400 LBS. good EXTRACTED HONEY, in quantities to suit purchaser, 50s. cwt. Containers free. Free sample. JACKSON, Duxford, Cambs. C 49

PURE ENGLISH HONEY. 6d.; second quality 5d. lb. Sample, 2d. Cash or deposit. TWINN, Apiary House, Ridgwell, Halstead, Essex. C 48

PROLIFIC QUEENS.—Swarms, Stocks, and Nuclei as previous advt. as long as supply lasts. Honey, sections and extracted. Sample 3d. E. WOODHAM, Clavering, Newport, Essex. C 55

TWO strong healthy STOCKS BEES (Abbott's Hives), £1 each; plenty natural stores; owner moving; packed on rail. MORRIS, Stationmaster, Stanford-le-Hope. C 47

PARKINSON'S HEATHER HONEY-PRESS FOR SALE; cost a guinea in 1899; only once used. What offers? FRYER, Sandsend, Whitby, Yorkshire. C 51

WANTED, 900 or any part of this number of QUEEN BEES, Virgin, Fertile, or Drone Breeders, alive or newly dead; must not exceed 3d. each. BONNER-CHAMBERS, Diptford, South Brent, South Devon. C 50

HONEY LABELS, 250, 2s. 3d.; 500, 3s. 6d. Bingham Smokers, 2s. 6d. GUEST, Kings Norton. C 29

GOOD ESSEX HONEY in 28 and 56 lb tins. 50s. cwt. Sample 3d. HAMMOND, Great Totham, Witham, Essex. C 35

SOFT MEDICATED BEE-CANDY in 1b. boxes with glass, sample lb. post free 9d.; 6 lbs. 5d., 12 lbs. 4d. per lb. GUTHRIE BROS., Alloway, Ayr. C 27

WANTED, SECTIONS, clean, white, well-sealed, any quantity. Prompt cash. W. CHILBON, Southdown Apiaries, Polegate, Sussex.

500 LBS. splendid EXTRACTED HEATHER and CLOVER HONEY. HY. WADDINGTON, Kirby Hill, Borobridge, Yorks. C 21

BUFF ORPINGTON COCKERELS, parent from Cook. Sell or exchange honey. NIGHTINGALE, Beecroft, Shrewsbury. B 98

AIR GUN, No. 3 stock, fitted with No. 1 bore, thus giving 3 times the ordinary velocity to any airgun. Good as new, cost 2 guineas, will sacrifice for 16s. What offers for 20 lbs. beeswax? W. BURDEN, Mere, Wilts.

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop.

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 7s. 6d.; ten dozen, 16-oz., 13s. 6d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

ENGLISH MADE HONEY JARS (1-lb. screw-cap), 15s.; tie-over, 12s. 6d. per gross; sample, 6d. (allowed off first order). JAS. DYSON, Stainforth, Doncaster.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2¼, 3, and 3½ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 9d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

FOR SALE, BEES, HONEY, HIVES, and APPLIANCES,
New and Second-hand, Cheap.
SPECIALLY CHEAP, well-made HIVES, catalogue price (new) 24s., for 18s. to effect a speedy sale.
H. N. BAXTER, Sedbergh, R.S.O., Yorks.

SLADEN'S
Complete Illustrated Catalogue of BEES, BEE-KEEPING APPLIANCES, and HONEY PLANTS. Fully Illustrated, with fine Half-tone Engravings, &c. Fifth Edition. Price 2d, post free.
RIPPLE COURT APIARY, NEAR DOVER.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 407.)

Mr. W. F. Reid said that in dealing with the subject he had been asked to introduce, he did not propose to go into individual cases where honey had candied for special reasons, but to consider the subject from a general point of view and endeavour to find out the causes which underlay the candying of honey under ordinary conditions. Therefore it was quite possible that there might be exceptions to the general rules he was about to point out. First of all he ought to define what was meant by honey. Honey was by no means a uniform product. It not only varied according to the flowers from which it was gathered, but also according to the bee, and he might even say to the bee-keeper as well. It did not consist of a definite chemical substance that was one which you could isolate in a state of purity. Some honey was almost candying when gathered. Heather honey candied often while in the comb. Mustard honey did so very rapidly. Wherever the liquid became saturated with sugar it candied readily. The source of honey was (or it ought to be) the nectar of the flower; honey-dew and other things were auxiliary sources, but the bulk came from nectar. The sugar in the nectar was cane sugar and was not the same sugar as in the honey, the latter being known as glucose.

In honey only traces of this cane sugar could be found. Therefore, the question was, what went on in the interior of the bee to cause this change? It had been said that the cause of the alteration was the formic acid that bees were known to secrete and contain; but there were many reasons against that. Glucose could be produced from cane sugar by the help of formic acid; but a temperature much higher than that of the hive or the bee was required to do it. Besides, a much higher percentage of formic acid would be necessary than the bee possessed. He would explain the change that took place in the cane sugar. If you took syrup and treated it with a small percentage of acid—say, sulphuric acid, which was generally used, or oxalic acid—and if you heated this, especially under pressure, a change would take place, and the sugar was said to be inverted. Invert sugar was the technical name of the product. If you passed the rays of polarised light through a solution of cane sugar, those rays would be diverted in one direction; but after treatment with the acid they would be deflected in the other direction. That invert sugar was formerly supposed to be a definite sugar, and was called glucose, but it was since found to contain two separate sugars—namely, dextrose and levulose, so-called because the dextrose deflected polarised light to the right and the levulose to the left. Polarised light was, until recently, the chief means of testing sugars, because chemists knew of no means of separating sugars from solutions in a pure state. Emil Fischer, however, discovered that sugars formed a combination with a substance known as phenylhydrazin and by means of this reaction numerous kinds of sugars had been isolated and prepared in a pure state. Some of these sugars were not known to exist in nature; they had been built up laboriously from their molecules by the organic chemist, and some of them possessed great scientific interest.

The chemist purified substances by distillation or crystallisation. Distillation was out of the question as regards the bulk of the constituents of honey, because the heat caused decomposition; but one very interesting thing in connection with distillation was that, if you distilled sufficiently large quantities of honey, you could isolate the aroma of the honey. It would be interesting for every bee-keeper to know what is the substance which conveys the chief value to the honey. It was well established that according to the *bouquet* of a bottle of wine so was its value, and we all knew that aroma played an important part in regard to honey. Although foreign honey came over here, yet none could compete with some of our native honey in flavour or aroma, and it was most important that the public should know how to distinguish between one and the other. The B.B.K.A. would do a good thing if they could find some way of giving everybody a taste, however small, of the genuine article. The people in our towns did not know it. They knew Swiss honey, and often wondered why their children did not like it; but they would never have any more of that if they could be brought to taste the pure and the adulterated articles side by side.

When sugar was converted by treatment with acid, the result was molecular proportions of levulose and dextrose. From a pound of cane-sugar you obtained a certain definite quantity of each sort—in fact, what was called equal molecular weights. That showed there was a splitting up of the cane-sugar into two other kinds of sugar in the honey, generally in about the same proportions as would be got by inversion of cane-sugar. The bees inverted, by some means not well known at present, but it was probably not by formic acid. An examination of the contents of the honey bag of a bee would show that it was not sufficiently acid to invert the nectar. It was a well-ascertained fact that the terrible disease of diabetes produced large quantities of sugar in the human being, but that was not done by acid. It was a physiological process that the chemists had not been able to reproduce in the laboratory. The next change to which the

bee subjected the nectar was concentration. This was first effected by a process of dialysis. The bee swallowed the honey into the honey sac, which was practically an animal membrane; through this membrane water would pass while sugar would not. In a good light one might see falling from bees in their flight a crystal drop, which was a small quantity of water extracted by the bees from the nectar. Further concentration was effected by the warmth of the hive; but there was one peculiar feature about this. If you took uncapped honey in the comb and placed it in an oven warmed to the temperature of the hive, it would be found that the honey in the cells did not concentrate so rapidly, and was not ready for capping so soon as similar honey left in the hive.

The temperature of the hive was, therefore, not in itself sufficient to concentrate the honey in the cell in the time in which the concentration was actually effected. It had been stated that the bees swallowed the honey again and reconcentrated it. There was, perhaps, some reason to believe that, but he had not personally observed it. When the bees had finished their concentration the result was a considerable reduction in volume and a liquid which contained a fifth of its weight of water. If the bees allowed a little more water than this to remain, then the honey would ferment; if a little less, then it would candy. There was a wonderful degree of accuracy in their work, for the proportion of water differed very little in various honeys. The thinness noticed at times in extracted honey was often due to unsealed cells in extracting. After the honey was taken out of the combs, it was either put into a closed jar or kept in a large bulk, from which there was practically no evaporation. The changes that next took place were, therefore, internal ones, and in order to ascertain the reasons that caused candying, it might be useful to consider the reactions taking place in some other industries. There was the old cane sugar industry, and the more modern glucose or corn sugar industry. In the manufacture of cane sugar, you concentrated the syrup by evaporation of the water until crystals separated out, which was candying on a large scale. To obtain the sugar of a good colour you had to use a low temperature. All these sugars, if exposed to a temperature even slightly below that of boiling water would darken. To evaporate at a low temperature a vacuum pan was therefore employed, because the boiling point of water sinks with the pressure.

Honey under ordinary circumstances was never and ought not to be exposed to a temperature even so high as that in a vacuum pan. The residue from the cane sugar syrup was molasses, in which there was a considerable proportion of sugar, but also a number of other substances which prevented the crystallisation of the sugar. It was well known in the sugar industry that there were certain ingredients which prevented crystallisation. In honey, also, there were a great number of substances that interfered with the candying or crystallisation. In America the glucose industry was a very large one. A sugar syrup of about the consistency of honey was made from starch, and when cooled this solution "set" or crystallised. The reason of this quick crystallisation was that there were very few, if any, impurities in that glucose; that was very few that would prevent crystallisation. If you were to exhibit a jar of this crystallised glucose it might secure a prize, if not tasted. It looked like a good candied honey, and was not so apt to ferment as many candied honeys.

In candied honey you have, then, a network of crystals or little nodules, the spaces between which are occupied by a saturated syrup or solution of sugar. At the ordinary temperature the mass would be solid; but on heating the syrup re-dissolves the crystals, and a clear solution is again produced. The impurities found in the honey that prevented its crystallisation were but very little known; they contained to a great extent the aroma of the honey. The sugar itself had very little aroma indeed. In addition to that there were substances derived from plants which varied according to the flowers the bee visited. An important fact bearing upon adulteration was that these other substances were not present in glucose. He thought it might be better for chemists to base their tests for distinguishing real from fictitious honey upon these non-sugar constituents, which could not at present be produced artificially. The sugar itself was not an indication of pure honey unless it were some rare kind of sugar that was not present in glucose. The condition in which the sugar existed in the fresh honey was that known as super-saturation. It had been concentrated by removal of the solvent water. A familiar case of super-saturation was common water, which, if perfectly calm, could be cooled down below its freezing point, but it then solidified suddenly when agitated. Another substance that showed super-saturation was glycerine. It was long considered that glycerine could not be crystallised, but during a severe winter some glycerine crystallised during transport, and it was then found that by cooling that liquid and adding a few crystals of previously-frozen glycerine the whole could be solidified. The purification of glycerine by crystallisation was now a factory operation, carried out on a large scale. When chemists produced a new substance their first effort was to crystallise it, but in this they were not always successful. Some substances were looked upon as uncrystallisible until Städel discovered that crystallisation might be started by a small fragment of a crystal of some other substance of allied chemical composition. This process was known as "infection," and had an important bearing on the candying of honey. If you took a super-saturated solution of sugars, such as honey, and "infected" it with par-

ticles of crystallised" sugar, the whole would begin to crystallise.

The smallest particle was sufficient for this purpose and "infection" was the rule with honey rather than the exception. Tiny crystals derived from the combs or the vessels used were sufficient to initiate the crystallisation. Jars that had previously contained honey were almost sure to cause candying unless very carefully washed. Mr. Walker had brought an interesting specimen bearing on this question. Some of this year's honey had been poured into a jar containing a small quantity of last year's honey, and the whole had candied completely although the rest of the honey had remained clear. Mr. Garratt exhibited two instructive jars of honey which showed the reluctance of honey to candy under certain conditions. They had taken a prize five years ago at a show and were still liquid, one of them only showing very slight traces of candying. Even the glass of which the jars were made might promote candying through the crystalline particles on its surface. Mr. Garratt showed another jar of honey which had been returned by the purchaser because the outside became wet and sticky, which was attributed to a leakage of honey. But the substance which exuded was not sweet and was probably silicate of soda which dissolved owing to the glass containing too large a proportion of soda.

Although "infection" was the commonest cause of candying yet a low temperature was of course a predisposing condition and once the sugar had solidified it sank to the bottom owing to its greater specific gravity, and a comparatively high temperature was necessary to redissolve it. In one case a row of honey jars stood on a shelf near a door and only those jars exposed to the cold draught from the door candied.

As the sugar separated out the remainder of the liquid necessarily became more dilute and was consequently extremely liable to ferment. In order to reduce candying to a minimum the honey should, after bottling, be placed in a warm place not exceeding 100 deg. Fahr. This would dissolve any minute sugar crystals that might be present and the honey would then keep well at a temperature of 50 or 60 deg. Fahr.

*** *We are compelled to defer till next week the discussion which followed Mr. Reid's address, together with remainder of Conversazione report.*

EXHIBITS AT THE DAIRY SHOW

(*Continued from page* 397.)

GRADING HONEY BY COLOUR.

Reverting to the exhibits at the Dairy Show and grouping together the first three classes in the schedule—viz., those for "light," "medium coloured," and "dark" honey respectively, it must be confessed that the first attempt to meet the colour question by careful grading has not been an unqualified success. As time goes on, however, exhibitors will no doubt become more expert in grading honey by colour in using the slips of stained glass sent out for their guidance by the B.B.K.A., and when the necessary training experience has been gone through better results will be secured so far as regards removing the dissatisfaction expressed by some exhibitors at the awards, and by the judges at the mistakes in colour grading shown by exhibitors themselves. In one case a sample staged among the "medium" coloured honeys must surely got by some mistake into the wrong class, for if *blackness* meant merit, it would have been an "easy first" if staged among the dark honeys.

While on the subject of colour grading, it may be advantageous to refer to the official notification regarding the standard tints for medium coloured extracted honey, seeing that if the "medium" colour is clearly defined, the other two tints "light" and "dark" will define themselves as standing respectively above and below the "medium."

The notice mentioned reads as follows :—

"British Bee-keepers' Association,
12, Hanover-square, London, W.

"*Standard Tints for Medium-coloured Extracted Honey.*

"One piece of the glass, supplied herewith, when held up to ordinary daylight (not in sunlight), shows the lightest shade allowable, and the two pieces in juxtaposition denote the darkest shade permitted in classes for medium-coloured extracted honey.

"The test of colour must be made with honey in glass jars similar to those in which it is to be exhibited, and in no other way."

One might think the above was sufficiently clear, but it seems not quite plain to some who are among those whose exhibits have been badly graded; and, with the view of helping the latter, we therefore venture to put the directions in a somewhat different form, as follows :—

Place *one* piece of the glass alongside a jar of honey (similar to those in which the latter is to be staged), with a sheet of white paper as a background, and compare the respective colours of honey and glass when looked at in a good light (not sunlight). If *not lighter* in colour than the glass it is eligible. Then place the two pieces of glass together, and if the colour, as seen through *both* pieces, is *not darker* than the honey, it is also eligible in the medium class. Thus the glasses used singly and both together represent respectively the extreme shades of colour (light and dark) beyond which it must not go.

Until the colour question is properly understood it will be a source of perplexity to both exhibitors and judges; but once it becomes known how to test colour by means of

exactly uniform (or "standard") samples of tinted glass, there should be far less difficulty in this direction than some suppose. For the rest, it may be said that light-coloured honey was well represented, but calls for no special remark. In the "medium" class better samples than those which received awards were unnoticed by the judges, evidently owing to their not being of proper colour to bring them within the "grading" line. We shall, no doubt, get rid of this difficulty if exhibitors will take the trouble to obtain coloured glasses to keep by them for grading purposes when preparing exhibits.

The "dark honey" class also seems to be imperfectly understood, many of the samples staged being too light in colour. A good many of the exhibits had also been disqualified by the judges, obviously through the distinctively marked aroma and flavour of heather. Exhibitors must not lose sight of the words in schedule referring to this class which read, "Dark-coloured extracted honey (other than heather-honey)". If, therefore, heather-honey is staged, it is bound to be disqualified. Extracted heather-honey was poorly represented, and we thought the 2nd prize sample better than that which got 1st, the latter being thin and far less gelatinous than most good heather-honeys. The class for granulated honey was somewhat striking to the eye, but some samples of excellent appearance proved very disappointing as regards flavour and aroma, while many were also badly fermented.

Comb-honey in sections (though represented by only eleven entries, against thirty last year) was a fairly good class bearing in mind the moderate season, which had a distinct effect in causing "over-sealing." Heather sections only brought forth a couple of exhibits of the four entered, a remarkable fact when we hear of a good heather season in Scotland and North of England.

Owing to the general excellence of exhibits in the Trophy class, all the four prizes and a highly commended were awarded respectively to the five trophies staged. The two classes for beeswax were well represented and good samples shown, but with regard to the second division, for cakes of wax "Suitable for the retail trade," there seems to be much divergence of opinion, whether the "quality" of wax or the "marketable form" of the cakes should be the main point in securing the award. This matter will, no doubt, receive attention from those in authority another year, as it is only fair that the points of most value should be understood by exhibitors and judges alike.

The Silver Medal of the B.B.K.A. went to Mr. F. Walker, of Derby, for a painstaking exhibit in the class for "Interesting Exhibits of an Instructive and Practical Nature."

An exhibit (not staged in competition) which attracted considerable attention was that of "Scientific and Practical Queen-raising," entered by Mr. H. Edwards, of Ashford (see letter on page 408 last week). It consisted of an observatory hive containing bees actively at work constructing queen-cells; a prepared frame as used by the exhibitor contained queen-cells in various stages of development; and, in the upper portion, three isolated, partly-filled sections, each one of which contained respectively bees and a queen; thus illustrating the differences between ordinary natives, pure Ligurians, and Carniolan-Ligurian hybrids. The exhibit also included the various impedimenta of a specialist queen-breeder, comprising the waxen cups from which the cells are constructed; wood pegs to which the cups are attached; cocoons in which the just hatched larvæ are transferred to the cell-cups; the implements used in the formation of cups and transference of the larvæ. There were, in addition, nursery, postal, and introduction cages, together with a special double-ended nucleus hive fitted with an entrance feeder of simple, yet ingenious construction, the whole of the appliances and appurtenances shown being the handiwork of Mr. Edwards and all admirably adapted for their respective purposes.

NORTHUMBERLAND AND DURHAM B.K.A.

HONEY SHOW AT NEWCASTLE-ON-TYNE.

The above association held its annual honey show at Lockhart's Café, St. Nicholas-square, Newcastle-on-Tyne, on Saturday, September 29. The entries were more numerous than last year, and fully equal in finish and quality, which is very creditable to the exhibitors, who have had to contend with many difficulties in the way of an adverse bee season.

Amongst the various classes those for heather honey in sections and supers were exceptionally good. Mr. J. N. Kidd, Stocksfield, officiated as judge, and made the following awards:—

Six 1-lb. Sections.—1st, J. Thompson, Langleeford, Wooler; 2nd, Jas. Waddell, Wooler.

Six 1-lb. Jars Extracted Honey.—1st, Jas. Waddell.

Six 1-lb. Sections (Heather).—1st, J. Middlemass, Stamford; 2nd, J. Thompson; 3rd, Jas. Waddell; 4th, T. Gutherson, Rothbury; 5th, J. J. Weighall, Stocksfield; h.c., J. W. Wakinshaw, Westerhope.

Single 1-lb. Section (Heather).—1st and 2nd, J. Thompson; 3rd, J. Middlemass.

Super Heather Honey.—1st, 2nd, and h.c., T. Gutherson; h.c., Geo. Rochester, Blackhill.

Bell-Glass Heather Honey.—1st, Jas. Waddell.

At 6.30 p.m. a meeting was held, Mr. Wm. Clark presiding. Various items were discussed, amongst which being increased value of prizes for all classes at the next annual show.—J. WADDELL, *Hon. Sec.*

THE BASINGSTOKE BEE-CASE.

COMPENSATION FUND.

	£	s.	d.
Amount already acknowledged	8	1	6
Since received :—			
W. H. Harris, Hayes End	0	5	0
Geo. Wood, Rayleigh ...	0	2	6
W. A. D. Pern, Maple-durham	0	2	6
A. H. Miller, Egham ...	0	2	0
J. Lee, Dunton	0	2	0
W. McNally, Glenluce ...	0	2	0
G. W. B., Wheaton Aston	0	1	0
W. W. Pryor, Breachwood Green	0	1	0
T. Ormisher, Ormskirk ...	0	1	0
Total	£9	0	6

The above fund may now be considered as closed, but any sums reaching us before the end of the present month will be dealt with in closing the account.—EDS.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NEWCASTLE SHOW.

[4110.] Although I may be rather late, will you allow me to say a few words in your valuable paper with regard to the "Grocers'" Exhibition at Newcastle, which opens on October 31? In the first place, I would correct a printer's error in schedule as printed last week on page v. In Class X the two first lines as printed should have been left out altogether, so that the second paragraph only remains, and reads: "Liquid extracted honey (other than heather)," &c. Owing to the honey classes being included in haste, there was not time to send me a proof; thus the mistake crept in.

I would also like to say that these shows are greatly helpful in disposing of home produce, as honey is shown in a marketable form which completely surprises some of the grocers and confectioners who attend these exhibitions. There is a great outcry amongst bee-keepers at the present time *re* the disposal of their produce, and my experience at the late London shows enables me to say that undoubtedly here is an outlet for a large amount of honey.

For this reason I have undertaken the work at Newcastle for the benefit of the bee-keeping industry in general, and I sincerely hope that bee-keepers will assist me as much as possible with entries, so as to make the thing a success. If this help is forthcoming, no doubt next year—when there will be more time to arrange matters—we shall receive more encouragement from the directors. There is also a grand chance for our north country friends, both in the heather and trophy classes. I might also say, as the time is so short, if bee-keepers who have not time to make their entries before the 29th inst. will kindly send them, together with entry fees, addressed to me at St. George's Drill Hall, Newcastle, I will undertake to see the numbers put on the exhibits, so long as there is name and address inside the boxes.—W. HERROD, *The Horticultural College, Swanley, Kent, October* 20.

NON-SWARMING HIVES.

A YORKSHIRE BEE-KEEPER'S VIEWS.

[4111.] As swarming plays such an important part in securing a good harvest of honey, and seems to crop up every season, I have decided to give your readers my system of management, by which I have totally overcome swarming and greatly increased my income of honey. It seems to be pretty clear now to the majority of bee-keepers that honey and swarms cannot be secured in the same year, hence the great need for a good non-swarming hive. Our leading appliance-makers have done a deal in this direction, and if their instructions are properly carried out swarming will be greatly reduced. Some excellent hives were exhibited at the "Royal" Show at York this year. Personally, I had already overcome the swarming difficulty, and perhaps did not view those hives in the same light as did the makers. However, I examined several "non-swarmers" carefully, along with our esteemed Editor, and in thinking over the *pros* and *cons* of my own hive and those staged at York, I am quite certain that the latter will not only tend very much to reduce swarming, but will greatly increase the honey-yield. I say this much, although the method of working them is not according to my system, which gives me far greater advantages than I could secure from the hives exhibited. At the same time, it is most probable that the hives in question differing from my own might be more efficient in the South of England than in my district, because according to the district so must the management be. In other words, a system that produces good results in one district might easily be a total failure in another.

In considering the question of honey-production, it may be said that three things greatly govern the result—first, the season; second, the district; third, the management. Over the first and second we have no control, so that success or failure rests with the third. Before going into the class of hive and the method I adopt, let me give you the produce of my small apiary for the current year, which will enable you to judge

the system by the results. It is fairly well known in my locality that I secure more honey per hive than a good many bee-men around me do; in fact, some old bee-keepers actually dispute the correctness of my statements as to the amount of honey secured in one season; but, of course, this does not alter the fact in any way.

I commenced the season with nine double-queened or "Wells" hives and ten ordinary hives. The "Wells" hives were worked for extracted honey and the single hives for sections. I cannot give the weight of honey produced by each hive, the gross totals only being totted up at the end of the season. The total weight, then, is slightly over 12 cwt. of extracted honey, and 447 saleable 1 lb. sections—the latter being all taken from the ten single hives. There were also unfinished sections from which about 40 lb. of honey was pressed out, and this is included in the extracted honey, the remainder being from my "Wells" hives.

I am glad to say that by the aid of my better half nearly the whole of this season's crop is sold out, which fact necessitates my having to purchase small lots to fill repeat orders.

In addition to the sections named above I have sixty brood-frames, mostly filled with honey, which are not included in the "totals" given, as I retain those for use as occasion may require. The season has not been one of the best in this district; yet I may claim to have had a fairly good harvest, and this, I consider is owing to the way I manage my hives.

So much, then, with regard to results. In my next letter I propose to describe the class of hive, and give some details of the system adopted which has enabled me to avoid the issue of a single swarm.—W. RYMER, *Levisham, Yorks, October* 20.

(*To be continued*).

THE PAST SEASON IN SCOTLAND.

[4112.] Now that all outside bee-work has been finished for the year 1900 we can afford time to take a look back on our year's work in this part of the kingdom. The spring was a backward one, with cold winds and late frosts, requiring weak colonies to be well looked after to prevent spring dwindling. A warm spell in May enabled those stocks that were strong enough to store a fair surplus off fruit-blossom and hawthorn, and bee-keepers at that time were looking forward to a record season; but after June 25 the bees did little or nothing as regards the clover or limes. About 30 lb. honey-comb would be a fair average for our district, with 50 lb. extracted. After such a wet and cold June and July we had a right to expect a good August for the heather, but with the exception of the second week, when the bees stored a slight surplus, they were a failure. Still, when they were brought back it was found that strong colonies had sufficient food to keep them all the winter, while others at home had to be fed.

Honey in this part commands a fair price locally, comb honey from 1s. to 1s. 3d., run honey 10d. to 1s. 2d. per lb. Perhaps in a more plentiful year it may come down in price, but seeing the thousands that flock to "Burns' Cottage" and monument, it need not except to the home market. Bee-keeping is reviving in this part; people are beginning to see that with care and proper management bees will pay. Foul brood is, I am sorry to say, showing here and there, but in every case where discovered the bee-keeper is only too anxious to use every precaution to stamp it out, and there being very few hives with fixed combs about, it is readily discovered. Throughout the season there has been a good demand for swarms, stocks, and queens; Italians seemed to be prime favourites amongst the foreigners. There is no doubt that, whatever qualities the Cyprian bees may possess, they will be prime favourites, if only for their beauty and quietness. In most cases they may be handled without smoke. One peculiarity I noticed with them was that I could not join natives to them. Although I used every precaution except shaking both lots from combs, every one of the natives were killed. Although smaller and quieter to handle, they are determined defenders of their home; even the powerful wasp was kept at bay. Did any one ever see such a plague of wasps as we had this year? They were swarming everywhere, and great precautions had to be used to keep them from clearing out weak lots. If our Junior Editor was up this way he would have a different story to tell about the weather than that recently recorded in "Useful Hints." The past six weeks have been so bad here that there is actually some corn to cut yet, and a great deal to take in; this, too, in one of the earliest districts in Scotland! Yesterday and to-day we have had a perfect hurricane howling around us, the rain coming down in torrents and causing the bee-keeper to take a look round to see that everything is tight and snug in the apiary, for a "set back" just now almost means a stock less in the spring count.—J. GUTHRIE (Guthrie Bros.), *Alloway, Ayr, N.B.*

THE LATE TRIO OF HONEY SHOWS.

CRITICISING THE AWARDS.

[4113.] In the correspondence columns of the B.B.J. of October 18, I notice Mr. W. Woodley's remarks (4103, page 407) on the above shows. Our friend draws attention to the "poor response made by the bee-keeping fraternity to the efforts of the Managing Directors of the Confectioners' and Grocers' exhibitions to foster the honey trade."

Personally, I am not surprised that classes for "honey trophies" do not draw many entries. In these exhibits, at such shows, a

large quantity of first-rate honey is required to gain honours. Then, there is the risk of damage, and expense of getting the exhibit to the show, and staging same; which last also means "time," very precious with some people. Consequently only the larger producers are induced to exhibit "trophies" to advertise their wares. But why did Mr. Woodley not increase the exhibits by showing at the "Confectioners'?"

Regarding the class for granulated honey at the "Dairy Show," I notice both Mr. Woodley (on page 408) and Mr. Seymour (4105, page 410) complain of the "colour" of the prize exhibits, the latter gentleman saying, "The bulk of our judges would not trouble to open a jar of honey that colour." Such a remark does not give much inducement to bee-keepers to exhibit in an open class. I was very glad to see the prizes go to the darker samples, as the public will learn that what "pleases the eye" is not always the "best." I agree with Mr. Seymour's suggestion "that no exhibitor shall take more than one prize in a class," especially in classes for produce. I would suggest exhibitors should have only the award cards for prizes more than one in a class, the money going to the next in order of merit.—W. W. DREWITT, *Normandy. Guildford, October* 20.

JUDGING HONEY.

AWARDS AT THE DAIRY SHOW.

[4114.] I must take leave to object to the opinions expressed by Mr. H. W. Seymour in B.J. of October 18 (on page 410), that the colour of honey at the shows should be the principal point in judging, in preference to flavour. I admit his opinion is favoured by the majority of judges at our shows, as witness the 1st prize exhibit for granulated honey at the "Royal" Show at York this year, which was taken by a very light-coloured sample, though, on tasting it, I found it was in an incipient state of fermentation. Also the 1st prize for light honey of present year, at the same show, was, in my opinion, not to be compared with the 2nd prize sample in point of flavour. This system of colour before flavour is really playing into the hands of the foreigner, because both the best Chilian and Californian — which are easily obtained — are light in colour, the former especially being very light, but only having an insipid flavour. Californian honey is rather darker, but far superior in flavour. The palate will soon get tired of honey which has only colour to recommend it, whereas the heather honey especially, which our friend calls "dark-coloured stuff," is enjoyed with greater relish. To comprehend the hold which foreign honey has on the market, if any of your readers will take notice of the labels the retailers use, they may be surprised to find how few there are who claim to sell the British product. I wrote to a large printing firm for samples of labels, and out of fourteen there were only two "English," and when the traveller called he admitted most people sold the foreign honey, and such words as "genuine," "best," and "finest" were used.

I might say that I have not done any exhibiting this year, though I enjoy going to the shows, and make a point of tasting many of the samples in order to gain some idea of the judges in awarding the prizes.—"CHEMIST," *Sheffield, October* 21.

INTRODUCING QUEENS.

THE "PASTEBOARD" METHOD.

[4115.] I was much interested with the article, headed as above, in B.J. of the 4th inst. (page 390) for the following reason:—In August last I introduced two queens sent me by Mr. H. W. Brice according to his "second method" as thus described: "Place the wooden cage containing the queen face down on top of the frames for twenty-four hours, then remove the food-cover (a piece of pasteboard) and replace the cage as before. The bees will release the queen by eating away the candy." At the expiration of the twenty-four hours I lifted the cages for the removal of the food covers (a piece of pasteboard), and found the bees had performed that operation for themselves, leaving only the shreds for me to remove.

The next time I have a queen to introduce I am very likely to leave the whole process (the removal of the pasteboard cover as well as the candy) to the bees in the hive, the liberation will occupy more time, but that (the time), according to the article in question, would be no disadvantage, rather the other way.—W. C. H., *South Devon.*

THE BASINGSTOKE BEE-CASE.

[4116.] I enclose two shillings for Basingstoke Bee-Case "Compensation Fund," and will be glad to contribute ten shillings towards carrying the case to the higher court if it is decided to take that course, and have the thing thrashed out. If the matter is allowed to stand as it is, hundreds of bee-keepers may have to suffer, as other judges will view that case as a precedent. I quite agree with our Editor's advice, to "keep out of law" if you can, but this seems to be a case that ought to be carried further for the sake of bee-keeping as a craft. Some people have queer notions about bees, and Judge Gye is evidently one of those.—A. H. MILLER, *Egham.*

APICULTURE IN LONDON.

BEES AT THE MUSEUM OF THE WHITECHAPEL FREE LIBRARY.

A similar exhibition, held last year, was so successful that arrangements were made with

Messrs. Jas. Lee & Son, of Holborn-place, for the loan of their excellent three-frame observatory hive from October 9 to 12. Nearly 2,000 children, from twenty-two elementary schools in East London, came with their teachers in parties numbering from thirty to fifty. Each party had half-an-hour's lesson, and then the children marched past the hive, two by two, to see the queen, who showed herself most graciously to every party, except two. These forgot their disappointment in the pleasure of seeing the bees' tongues sipping syrup by means of the very clever arrangement for this purpose which is attached to all Messrs. Jas. Lee & Sons' observatory hives.—K. M. H., *The Museum, High-street, Whitechapel, October* 20.

Queries and Replies.

[2534.] *Preserving Store-combs Containing Pollen.*—I have a hundred or more of worker combs, well built. Most of them contain pollen; they are what I have taken out of my hives to close up for the winter. I have extracted the honey, and the combs are well cleaned out by the bees. Can you kindly give me any information as to how to keep them good for next season? It seems a pity to consign them to the wax-pit, but previously I have found the pollen become mildewed if kept in an ordinary way, and if kept in an extra warm or dry place the pollen goes hard. —J. G., *Cornwall, October* 11.

Reply.—We never deem it advisable to store away for future use combs containing pollen, the reasons given by yourself against the practice being in agreement with our own experience. This, too, is one of our arguments against the non-use of queen excluders between brood and surplus chambers. There should be no pollen in store-combs, or if a few cells happen to be occupied with pollen (as occasionally happens) we should cut the pollen-filled comb away. This is what seems the best course to pursue in your own case—viz., cut out the pollen and let the bees rebuild the removed comb next year.

[2535.] *Mishaps to Queens when Swarming.*—1. I send herewith two pieces of comb for your inspection (one piece containing brood, the other pollen), and will be obliged if you will say if there is disease in either. The bees in hive from which samples were taken had dwindled down to about a pint, nearly half of them being drones; I therefore destroyed the lot as not worth keeping. I may say the bees in question were a top swarm that came off on July 14 last. But there are eight frames of comb left, all of which are filled half way down with honey, the lower parts containing more or less of pollen like sample piece, the only brood being in the bit of comb I send you? 2. This being so, I would like to know if it will be safe to keep the combs for giving to a swarm next year? If you think it will, I can keep the honey from granulating, as I have a warm cupboard to store them in, where the temperature would never get below 60 deg. Fahr. On the other hand, if preferable, I could extract the honey and melt the combs down for wax. On examining the combs before destroying the stock I saw the queen—which looked very small—and found the three queen-cells sent. I have only kept bees for two years, and all I know has been learned from the "Guide Book" and the B.B.J.—John Jones, *Dolgelly, N. Wales, October* 18.

Reply.—1. There is no disease in combs sent. From the particulars given above it seems safe to suppose that some accident has happened to the old queen that issued with the "top swarm" subsequent to being hived on July 14, and the bees raised another queen for themselves from the brood left in the hive. The young queen so raised has apparently failed in mating, as shown by the only brood found being drone larvæ in worker cells. 2. Two or three of combs stored with honey will be very helpful if given to early swarms next year if carefully stored, as proposed, to keep the honey from granulating. We should, however, cut away the lower parts of combs—now filled with pollen—and let the swarms rebuild the portion removed.

[2536.] *Introducing Queens after "Uniting."* —As a Bee Journal reader for a number of years I take the liberty of asking your advice on the following:—On September 22 last I brought home my hives from the heather, two of which being rather weak in bees I united on the 27th. On the two days following this operation I found each morning a dead queen at mouth of the skep. Thinking the bees were queenless (without examination) I gave them a new queen on October 7 (eight days later), after being in cage on top of frames for thirty hours. During next three days, I found in all eight queens which had been thrown from skep, one of them seeming to be that which I had introduced. All the others are evidently young which I enclosed for your examination. The stock seems now to be in good condition, but the inclemency of the weather prevents close examination. Have I made a mistake in introducing a new queen? and 2. Where did all the queens come from in such a short time (eight or nine days) as at time of uniting stocks no brood or queen-cells were evident? 3. I think this a strange proceeding of the bees, and would be pleased to have your opinion on the matter.—R. Lindsay, *Westburn, N.B., October* 15.

Reply.—1. There were clearly queen-cells in the stock when the alien queen was introduced and these should have been removed beforehand. 2. The mature queen is amongst the dead ones. 3. It is probable the stock is still headed by a virgin queen.

[2537.] *Dealing with Swarms in "Wells" Hive.*—Being a constant reader of your B.B.J. and *Record* I would like your opinion, through the B.B.J. columns of my method of working two swarms which I had this summer. The first swarm came off on June 5, the second swarm or cast issuing on the 14th. Both of these swarms issued from a "Wells" hive containing twelve frames. After the second swarm came off I removed the dummy of parent hive placing a division-board in the centre. On the one side I put six combs of brood, and on the other side four combs of brood and two of comb-foundation, and to the latter I returned the second swarm. Supers were duly given and took a super of sealed honey weighing 3½ lb. from the side where the second swarm was about the middle of July; but the other side only put about 1 lb. of honey in their surplus chamber. I then put on a rack of twenty sections, which were filled but not all sealed at the heather. My top swarm had on a rack of eighteen 1-lb. sections which were filled but some not sealed at the heather. The season has been a very poor one here.—DAVID MOFFAT, *Wishaw, N.B.*

REPLY.—In view of the poor honey season reported from Scotland we consider your "method of working" has succeeded very well.

[2538.] *Flowers Sought after by Bees.*—May I, through that excellent medium the BRITISH BEE JOURNAL, ask for a list of flowering plants—annuals and perennials—beloved by the honey-bee. I am extending my apiary and also my flower borders, and putting in some crocuses, but I would like to have the names of other flowers to follow on. Thanking you beforehand.—APIS MELLIFICA, *Bletchley, October* 20.

REPLY.—A very full list of bee-flowers, compiled by our Senior Editor, Mr. Cowan, may be had on application to Messrs. Sutton, seedsmen, Reading. A smaller list is also published by Mr. Geo. Rose, seedsman and dealer in bee-appliances, Gt. Charlotte-street, Liverpool.

[2539.] *Late Feeding—Bees Refusing to Seal Syrup-food.*—I have a frame-hive into which on September 8 I placed two weak stocks of driven bees and a very small "cast," which latter had been in a temporary hive for several months, and had, during that time, worked out and nearly filled four frames of comb. I placed in the hive the latter mentioned four frames, two others partly filled taken from another hive, and two frames with full sheets of brood foundation. I did not commence feeding until October 12, as I was away from home, and since that date I have given them each night 1½ lb. of syrup, but they have built out very little comb, and do not appear to have sealed any more stores, or if any it is very little. Under the conditions described I therefore ask:—1. Is it too late to go on feeding, or can I do anything to raise the temperature of the hive at nights, say by placing two or three night-lights in the space between the dummy and the back of the hive, and then feed very rapidly? 2. If too late to do much feeding, would you give candy?—X. Y. Z., *Abergavenny.*

REPLY.—1. We should at once remove the two frames of foundation—first, because six frames will be quite sufficient to winter the bees on; and second, the attempt to draw out the foundation into comb at this late season only tends to waste the vitality of the bees and retard the chances of getting the food sealed over. By crowding the bees into a smaller space and taking some means of raising the temperature inside the hive, you may get some of the still uncapped food sealed over, but it is doubtful in the present cold weather. Hot bricks set above quilts and plenty of warm wraps over all will do far more than "night-lights" used as proposed. 2. Yes, a good 4-lb. cake of really well-made soft candy is more suitable food now than syrup.

Echoes from the Hives.

Wickford, Essex.—My honey harvest has been better than that of some of our friends and not so good as others, my "take" being about two-thirds of last year's crop. I find skeps have, as a rule, done very badly about here. A friend who drove four skeps found the bees were so weak in numbers in each case, that he had to join the whole four lots in one hive to make up a decent stock. Three of them had only about three or four pounds of honey in each, while the other one was nearly full of stores, as was also a small skep put on top as a super. My bees are still bringing in honey to all hives on fine days. I only took the last shallow frames off a week ago, and then the honey was not all sealed over. I cannot think what they get it from so late in the year. It was much the same in 1899. Not till the second week in October could I clear up for the season because of honey coming in.

While out on my bike near South Benfleet last week I saw a fine lot of ivy in bloom, and it was perfectly alive with bees of all sorts. I never saw so many on one kind of flower before; there were also a lot of wasps with them, and altogether the hum was so loud that I thought it must be a starvation swarm till I saw it. The bees were not all alike in colour, and must have belonged to different hives.—E. REED.

AGRICULTURAL EDUCATION FOR WOMEN.

The second annual meeting of the Lady Warwick Agricultural Association for Women was held yesterday afternoon, by permission

of the Duke of Sutherland, at Stafford House, St. James's, the Countess of Warwick presiding. There was a large attendance of ladies and gentlemen interested in the scheme.

Miss Edith Bradley, the Organising Secretary, having read the report of the committee,

Lady Warwick congratulated the Association on the progress and steady enlargement of its scope. They were meeting with great success at the "hostel," an ever-increasing number of good posts being at the disposal of trained women in horticulture, dairying, poultry work, and bee-keeping, and she was convinced that the further development of the Association would lead to sound results. With regard, however, to dealing with either horticultural or market-garden produce a thorough practical training was absolutely necessary. No amateur could hope to succeed without training herself in sound business methods, and she would never advise any one to compete in the business world without that thorough training. In fact, amateurishness was no use in that organisation. As to horticulture, there was an ever-widening field of labour thrown open to trained women. There were well-paid posts waiting for women as good gardeners, as forewomen in glass-houses, or in sole charge of small gardens, while, to those who had capital, market gardening farms were open for specialising in fruit and flowers, vegetable or mushroom growing, all of which would be productive of a certain income. In addition to these occupations, bee-keeping was a profitable source of additional income.

A discussion followed in relation to the openings for women trained in the lighter branches of agriculture—(*a*) as gardeners, fruit and flower growers, or market gardeners; (*b*) as dairy women; (*c*) as poultry rearers; and (*d*) as bee-keepers; much practical information being offered by the several speakers.

The report of the committee was adopted, and the thanks of the meeting were conveyed to Lady Warwick for presiding, as also for her continued interest in the work of the Association. A similar compliment was paid to the Duke of Sutherland for allowing the meeting to be held in Stafford House.

Bee Shows to Come.

October 31 to November 7, at St. George's Drill Hall, Newcastle-on-Tyne. — The Great North of England Grocers', Bakers', and Confectioners' Exhibition. British Honey Competitions open to all bee-keepers. Classes for Honey Trophy, Sections, Extracted Honey, and for Extracted Heather-Honey. Schedules and particulars from W. Herrod, Horticultural College, Swanley, Kent.

November 15, at the Town Hall, Ludlow, in connection with the sixth annual exhibition of the Chrysanthemum and Fruit Society. Two open classes for sixes. Schedules, &c., from Jno. Palmer, Hon. Sec., Ludlow. **Entries close November 6.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** Referring to the opinion expressed by Mr. F. B. White with regard to the "Basingstoke Bee-Case" (as reported in last par. of the proceedings at conversazione last week on page 407), we are sorry to see a slight inaccuracy in our report through his words not being very audible at lower end of room. What Mr. White said was that "he was always sorry to see any legal decision against the interests of apiculture, and would be glad to see all cases settled out of court, wherever possible, unless it was almost certain that they could be successfully defended. He, therefore, thought that bee-keepers threatened with proceedings, or served with a summons, might be invited to communicate with the B.B.K.A. and lay their cases before the Council of that body, who would, no doubt, consider and advise upon such cases as were laid before them. Mr. White also thought that if a defence fund could be raised and a committee appointed, the money might be applied either to assist in defending or settling cases, as the Council should advise.

J. Boyes (Cardiff).—*Awards at Dairy Show.*—The award referred to (*i e.*, fifth prize for light-coloured extracted honey) was correctly printed in our report on page 397. Your "list" is therefore inaccurate.

Apis Mellifica (Bletchley).—*Joining County Associations.*—We regret to say the county B.K.A. for Bucks has ceased to exist, but some bee-keepers residing in that county are members of the Berks and others of the Beds B.K A. Either of these associations would no doubt be glad to have you as a member. The Hon. Sec. of the Berks B.K.A. is Mr. D. Bishop Ackerman, 131, King's-road, Reading; and Mr. L. Glasspole, Olney, Bucks, is Hon. Sec. of the Beds B.K.A.

F. Allen (Oxford).—*Races of Bees.*—The bee sent is of the ordinary brown variety most common in this country.

Suspected Combs.

E. Halfacre (Camberley).—Comb is affected with foul brood in pronounced form.

Honey Samples.

A. J. Ford (Hemel Hempstead). — *Honey from Ivy.*—Much obliged for sample of "ivy honey," which is very fair in quality though dark in colour.

A. W. B. (Lyonshall, Hereford).—Except for the "cloudiness"—which shows that your sample is beginning to granulate—the honey is good on all points, and very fit for the show-bench. To remove the "cloudiness" and bring the honey back to its original clear condition it may be treated as you propose by immersing the jars in hot water (not hotter than the finger may be held in it) till the incipient granulation disappears.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 417.)

Mr. Carr called attention to samples of honey sent to the meeting that had gained the third prize at the Bath and West of England Show in 1895 and a higher compliment at the "Royal" held at Leicester in 1896. They were candied. It would be noticed that the crystals formed at the top, and kept on descending until they filled up the bottle and the whole of the honey became granulated. The opinion of many bee-keepers was that all the clear honey exhibited was heated first if signs of "cloudiness," or incipient granulation, appeared, whereas it was contended that it ought to be left in its natural condition. All Mr. Reid's experiments in the very able address they had heard tended towards informing bee-keepers how to *cause* the granulation of honey, whilst they were still more anxious to know how to prevent granulation, or at least how to make it granulate equally all over. A strange and unaccountable fact also was that honey gathered in the same district would one year remain liquid throughout the season, and the next would granulate within six weeks of gathering, and sometimes with a smooth and sometimes with a rough grain. Those were points which it would be desirable to elucidate.

Mr. Young said the Leicester exhibit of 1896 kept liquid till March of the present year and then began to granulate.

The Chairman thought that before a disease could be cured the pathology of it must be known. The affection must be diagnosed, and that was what Mr. Reid was doing, and the only method by which he could lead the way to any discoveries of the kind very properly suggested by Mr. Carr. It was important to know the chemical changes that took place between the liquid and crystalline forms.

Mr. Reid said with regard to the heating of honey before exhibition, that was a matter of ethics, and he thought it might be said that if the bee-keeper added nothing to, and took nothing from, the honey, then he was entitled to call it pure honey and exhibit it as such if he chose.

Mr. Carr said Mr. Woodley had complained in the BEE JOURNAL that judges laid too much stress on colour, brightness, freedom from "cloudiness," and beauty in the honey instead of on its real merits. This was, of course, a matter of individual opinion only.

Mr. Reid said he never professed to explain how granulation could be prevented. He did not know how. All he had endeavoured to do was to explain the process of granulation, and what he believed to be the causes thereof; so that the conditions being known, bee-keepers might endeavour to eliminate them, and thereby avoid crystallisation. That was no doubt often difficult to do, but it was the only remedy bee-keepers had. His remarks referred to honey generally; there might be many specific cases which were not in accord with the conclusions he had formed. He thought it was often impossible to say why a honey had candied, but if new combs were used and perfectly clean vessels, there was much less tendency to granulation. In reply to Mr. Hamlyn-Harris (who asked whether the granulation of honey was not founded on the same principles as the crystallisation of minerals) he said that was a very interesting question. All crystallisations were based on the same principles, and were similar to the segregation of rocks, or the tendency of all particles of the same kind of matter to approach one another and come together. That phenomenon existed throughout Nature. In reply to Mr. Brice (who asked what effect light had upon honey in jars or bottles) he said he had noticed the crystals form on the side opposite to the light. Wherever the sun struck the bottle there would be caused an ascending current unfavourable to crystallisation; thus any crystals evolved would be carried to the back of the jar. The slower the development of the crystals the more perfect were they, and in some cases the facets would shine like cane sugar.

Mr. Carr showed a sample of heather honey which resembled jelly in consistency and would not granulate.

Mr. Reid said that the heather honey before them was gelatinous, and contained colloids, which were uncrystallisable themselves, and also prevented other substances from crystallising.

Mr. Ford had extracted some honey on the previous Tuesday, and it was now "cloudy." It was a second crop, which always granulated much quicker than the first. The latter took five or six months to granulate.

The Chairman invited the two judges at the Dairy Show, who were present, to express their views on the proceedings in connection with the honey exhibition, which might be of service and a guide to bee-keepers in regard to forthcoming shows.

Mr. Scattergood had very few remarks to make that were not commendatory. It was strange that so many persons sent dark honey to compete in the light honey class; sometimes it was *vice versâ*. He wished the coloured glasses as arranged by the Secretary were well circulated, so that all members could know and adhere to the "standards." There was a fine exhibit of queen-cells and queen-rearing which, unfortunately, was not staged until after the judges had left the hall, but it was a most interesting exhibit from a scientific standpoint. He was sorry they could not award it a prize. He had been looking through the list of exhibits and of counties from whence they came, and noticed that

many counties were not represented at all. He had talked this matter over with friends, and from his own experience and information gathered he was led to the conclusion that bee-keepers in the Midlands did not care to pay 2s. 6d. for the entry and 2s. or 2s. 6d. more for the freight of an exhibit to the show, when they knew they had no chance of securing a prize. He advocated exhibits of a practical character, which brought before the public the various uses to which honey and wax might be put.

The Chairman said Mr. Young, their Secretary, had taken great pains to make the question of colour clear to exhibitors. He had two pieces of different coloured glass prepared, which would indicate the proper colour for honey in the several classes. Mr. Young had taken care to send the glass samples specially to all exhibitors.

A short discussion then took place between Messrs. Brice, Scattergood, Reid, and Meadows regarding the decisions of the judges at the show, which were to some extent challenged; but the questioner expressed himself amply satisfied with the explanations given.

The Chairman would like to recommend to the Council of the British Dairy Farmers' Association that 5s. or 10s. should be given as an extra prize for the staging of trophies. He thought all members must have been astonished and pleased to see such an excellent exhibit of honey, and particularly of trophies, which were the great attraction of the show. He also desired to move a vote of thanks to Mr. Reid for his lucid explanations and the very able manner in which he had treated his subject. No lecturer at the Royal Institution could have more clearly expressed his conclusions or more successfully riveted the attention of his audience.

Mr. Hooker seconded the motion, which was carried unanimously, and modestly acknowledged by Mr. Reid.

Mr. Scattergood said that two years ago, at the corresponding conversazione, they missed the face of an old and valued friend, but sent him from that assembly a hearty fraternal greeting; and he (the speaker) was sure he voiced the feelings of all now present when he said that they would be very glad to see Mr. Cowan back again as soon as he can come, and that they hoped it would not be long before he returned to "dear old England." He (Mr. Scattergood) moved that that message be conveyed from the meeting to Mr. Cowan (loud applause).

The motion was carried amid cheers.

The Chairman remarked that he recently had a letter from a friend abroad who expressed himself in a Latin phrase which, translated, read, "How happy I shall be to go to my own country," and they hoped that might be Mr. Cowan's feeling.

Mr. H. Edwards explained the difficulties he had had to contend with in preparing his exhibit of queen-cells and queen-rearing, which had been referred to that evening, and the unforeseen obstacles which prevented its being staged before the awards were made.

After a few remarks from Messrs. Hooker, Scattergood, Ford, and Reid on the subject of honey "sweating" through glass bottles, the Chairman expressed the acknowledgments of the meeting to the exhibitors of honey and appliances; and a vote of thanks to himself for presiding concluded the proceedings.

THE BASINGSTOKE BEE-CASE.

CLOSE OF COMPENSATION FUND.

	£	s.	d.
Amount already acknowledged	9	0	6
"A Friend" (to balance the account)	0	3	0
H. Jonas	0	2	6
J. Ling, Linton	0	1	0
A. Wainwright, Ince Blundell	0	1	0
J. Rowlands, Gt. Crosby	0	1	0
Total	£9	9	0

In closing the above fund, we are pleased to state that the sum subscribed now covers the total amount for which Mr. Longley was rendered liable in consequence of the verdict. In response to our request for particulars, we learn that the damages and costs amounted to £7 5s.; added to which was solicitor's account, viz., £1 1s.; paid to witness attending Court, 8s. (total, £1 9s.); veterinary surgeon's account, 15s.—making a total of £9 9s. A cheque for this amount has been forwarded to Mr. Longley.—[EDS.]

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S. F.Z.S., F.E.S., ETC.

Praktischer Wegweiser für Bienenzüchter (Germany).—A correspondent mentions the juice of Morella cherries as a good remedy for bee-stings, but remarks upon the necessity of immediate application, in which case the pain is said to instantly disappear and to leave no sign of any swelling. The remedy is one adopted by a peasant and is said to answer without exception.

Die Bienenpflege (Württemberg) says that honey strained and bottled in the sun, and allowed to remain there for some time, clarifies much quicker and also improves in aroma by the process.

Praktischer Wegweiser für Bienenzüchter.—From Cammin, in Pommern, comes a sad case of two horses which were stung to death by bees. The horses were standing quite close to the apiary under consideration, and, when attacked, immediately upset two skeps, with the result that might be expected. One of the horses died two hours afterwards and the other in three. The carter, also, was so badly injured that he lay seriously ill for eight days. The matter of damages was settled by a payment of £15. The editor recommends "insurance" as the only remedy against loss of this kind.

A farmer in Bavaria, in order to check robbing in his apiary in the spring of last year, exposed honey mixed with yeast and Schweinfurt green ($[C_2H_3O_2]_2Cu + 3CuAs_2O_4$]. —R. H. H.) in the open, having previously exercised great care and discretion (?) in locking up his own bees securely in their respective hives, with the result that in less than one hour eight stocks belonging to neighbouring bee-keepers were killed. Samples of the poison were seized by the indignant neighbours and sent for examination to the Officer of Health, trial ensued, and the farmer was sentenced to a fine of £15, with an additional sum of £15 for costs.

Die Biene und ihre Zucht.—According to the last-named paper, a periodical devoted to "patents" suggests to those desirous of becoming millionaires, the idea of inventing a bee-hive from which the honey can be extracted without disturbing the bees themselves. Ingenious minds are requested to "invent" quickly.

L'Apiculteur (France). — To test honey M. Satori recommends placing a sample upon ice, allowing it to evaporate, and crystallisation will then determine its purity.

Along with the above we have received the following letter.—EDS.

"DEAR SIRS,—On account of some misapprehension having arisen, both at home and abroad, may I be allowed to say that my 'Reviews of Foreign Bee-Papers' are *not* opinions and ideas expressed by myself, as some suppose, but are only reviews and quotations translated from other bee journals as actually published in the papers mentioned at the commencement of each paragraph.

"I should also like to suggest that those copying extracts or referring to my articles generally in other bee journals should do so with care and precision, as cases have come to my notice in which names have been mixed up and statements attributed to the wrong individuals. This must necessarily tend to a wrong understanding, besides causing great annoyance to the writer of the articles.—R. HAMLYN-HARRIS, *October* 29."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4117.] The Dairy Show has again brought forward some points for discussion. Mr. Seymour (4105, page 410) calls attention to the granulated honey class in which the first and second prizes went to honey flavoured strongly of heather. Another year I hope to see two classes for granulated honey—one for granulated honey other than heather, and a new class for granulated heather honey. This, if made known early enough in the B.B.J., would give intending exhibitors an opportunity of holding samples of their granulated honey of both kinds for the shows. The early date of the Dairy Show precludes granulated honey of the current year's gathering, *i.e.*, honey of prize-winning quality.

Responsibility for Exhibits.—The question of responsibility for loss or damage to exhibits is answered on page 414. The matter ought, in my opinion, to be dealt fairly with between secretaries and committees and exhibitors. If the latter send their exhibits in good faith, entrusted to the care of the secretary and committee of a show, every possible care ought to be taken of them, and the steward of the department should see to the packing and despatch of all exhibits at the close of a show. I have had two losses myself this season. At one show held in the South of England I received back a few sections solidly crystallised in place of twenty-four sections all beautifully clear and in the best of condition. The secretary has not been able to trace the person who got my parcel of two dozen "first-prize" sections; therefore I am a loser, and the only compensation I get is the few crystallised sections worth about 4½d. each. At another show in the Midlands, my one dozen "first prize" jars of extracted honey vanished! The secretary believes they were packed in the box all right, but the railway company only charged for the empty box, so that if they were placed therein at the show, they must have been stolen between the show-ground and railway station. Here, then, is another loss; in this case I have offered to compromise the affair by accepting a two-thirds value, but I have not heard anything from the secretary since I wrote asking him to bring the subject before his committee for their consideration. These are matters which, to a small bee-keeper mean a serious loss, as with a few hives he may have only a dozen, or so, of "prize" quality sections or jars. May be some of your readers who have had similar experiences will send them on for publication, so that the question may be discussed and, perhaps, a remedy suggested.

Mr. Drewitt (4113, page 420) asks why I did not swell the number of exhibits at the "Confectioners'." In reply let me say first, it was that valuable commodity to a busy working bee-keeper, yclept, "time." Just when the time for "entering" arrived my good wife and I were busy preparing and dispatching orders, which came faster than we could execute them, although working continuously for sixteen hours daily. Second, I found that the rule introduced (though I failed to see it in the schedule or conditions) was that the winners of prizes at the "Confectioners'" would not be allowed to compete at the "Grocers.'" I think if Mr. Drewitt reads my

note, *re* the granulated honey class, he will see that it was the *kind* of honey, not the colour, to which I called attention. With regard to the trophy class, I would entreat committees, who have the arrangement of schedules for future shows to strike out that hard and fast rule of 3½ by 3½ inches clear of paper edging in their trophy classes. This restriction, I feel sure, has a retarding effect on would-be exhibitors. As an old hand, I may mention that it takes three times as long to glaze sections for shows with the ⅜ in. edges, as when allowing the usual ½ in. for sale purposes. The "New Registered" section cases made by Messrs. Lee & Son I know obviates this trouble, but I also know that it adds to the expenses of the show account or detracts from the return on the sales of same by some 7s. or 8s. per gross compared with glazing the sections at home. Then another "extinguisher" of the budding showman in the trophy class is Rule 7, as instanced in the Newcastle schedule, which states that "no prize will be awarded in any class unless at least ten entries be exhibited." I take it that here we have an imperative command to stage every entry, but that the entries will not count unless actually staged. I grant the proviso of judges being able to give special recommendations for prizes in case of specially good exhibits, but exhibitors have to take their chance of these, and I have letters before me from bee-keeping friends in the north commenting on this very point. I therefore draw attention to the fact that there will be two entries less at Newcastle than there would otherwise have been, to my certain knowledge. Lastly, there is, as Mr. Drewitt says, the risk of damage and expense of getting honey to show, together with expense and return journey to stage it, and in this particular instance, no money prize but only medals for the winners. There is certainly the "diploma" on which some may set a trade value, but I think I am voicing the almost united wishes and ideas of bee-keeping exhibitors of "trophies" that some tangible award in the shape of cash prizes (don't say we are altogether sordid, please) are most appreciated. Finally, I would suggest two trophy classes, one, say, of 1 cwt. or 150 lb. approximate, and the smaller of 50 lb. to 60 lb. confined to apiaries of a limited number of stocks, and debarring exhibitors in one class (or any of their family) from competing in the other. This would give the smaller bee-keepers a chance of winning prizes and prevent that continual carping and "baiting" of prize winners at the annual *conversazione* at Jermyn-street.—W. Woodley, *Beedon, Newbury.*

DAIRY SHOW AWARDS.

[4118.] Mr. W. W. Drewitt (4113, page 421) refers to my saying that the "bulk of our judges would not trouble to open a jar of honey that colour." I repeat it; they would not. I am sorry our friend is pleased that the prizes went to dark honey, as he says the public will learn that "what pleases the eye is not always the best" But what about *sections* at shows? That is nearly always a case of pleasing the eye. The judges take it for granted there is some good honey behind the cappings. In fact, appearances go a long way with a good many commercial products.

In reply to your correspondent (4114, page 421) who signs himself "Chemist," I feel sure he has not read my letter on page 410, as intended. I do not say "colour should be the principal point in judging in preference to flavour." Far from it, my friend; and I fail to see what the judging at the late "Royal" Show at York has to do with it. If the judging at the "Royal" did not suit "Chemist," why did he not mention it before? The very reason why I criticised the awards at the "Dairy" was to have the matter thrashed out at once. Let exhibitors know the points of excellence, and then we shall all start level in that respect.

With regard to granulated honey, every bee-keeper knows that his best extracted honey usually granulates very light in colour—in fact, nearly white. Now, our worst quality stuff, when candied, is about the same colour as the winners at the "Dairy." If our friend thinks light-coloured granulated honey should not win, why does he not propose a *dark class*, in which we could send some of our fourth quality honey to the show-bench? I also hope he does not class our best quality honey with "Chilian?" which, he says, is insipid in flavour. I see "Chemist" does not like the term, "dark coloured stuff." If he reads my letter, he will see I say nothing against the winning honey, the term was used in much the same way as the words "absent-minded beggar" is used. He says the palate would soon get tired of honey which has only colour to recommend it; quite so, but I am glad to say high-class British honey has something more than colour, it has flavour such as you would not find in a jar of dark coloured inferior honey.—H. W. Seymour, *Henley-on-Thames, October* 26.

(*Correspondence continued on page* 430.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Nightingale's apiary—shown on next page—affords another instance of the time-honoured skep going down before the modern frame-hive, and odd-sized frames giving way to the B.B.K.A. "Standard," as seen by the following "Notes" sent at our request:—

"I began bee-farming in 1874 through purchasing at a sale three stocks of bees in skep hives. These increased so rapidly that in a short time I numbered twenty or more colonies in skeps, and through want of better knowledge at the time I adopted the sulphur-pit

method of keeping down increase and obtaining the crop of honey. My old friend, the Rev. Mr. Gee, of Chatteris, however, brought home to me how cruelly I was behaving towards my bees, and after giving me more good advice went still further by presenting me with a hive on the movable-frame principle. This hive was one of the reverend gentleman's own make. From it I soon saw the advantages over my old way of bee-keeping. I therefore made several other hives on same pattern. Unfortunately, however, the pattern hive was not fitted with the British standard frames. As time went on I visited our flower show, held at March, and there saw the honey tent, and met with several bee-keepers to whom I am indebted for good advice. In the autumn of the following year I attended a series of six lectures on bee-keeping, in Chatteris, given by Mr. C. N. White, of Somersham, on behalf of the Cambs Bee-keepers' Association. I then became a reader of the B.B.J. and the happy possessor of a copy of Mr. Cowan's 'Guide Book.' The following year I happened to go to Somersham in the early spring, and there luckily found Mr. J. H. Howard, of Holme, who chanced to be on a visit to our well-known bee-keeping friend, Mr. Richard Brown, of that place. Finding Mr. Howard took pleasure in giving his own bee-experiences and in further answering my queries, I was helped, and from that time forward I avoided much that had previously been a hindrance to me. Through these 'helps by the way' I finally reached a better way of bee farming, and became the possessor of hives fitted with standard frames, thus working into 'up to date' bee-keeping, which has had the effect of making the pursuit pleasurable and more remunerative.

"As experience is gained and time rolls along I find that more 'marketing' is needed for honey-selling, even at lower prices, and were it not for the greater quantity of honey gathered from the frame-hive I would almost prefer the 'days of old.' Such exhibitions as have of late been held must, however, be helpful, through the sellers, buyers, and consumers being all brought face to face.

"My own land, on which I have established my apiary, is surrounded on the west by small orchards and gardens. The other lands around are principally grass, in which there is a good sprinkling of clover. About one mile from my apiary the Fen or low-land district begins, and from these lands, where mustard and turnip for seed are largely cultivated, I get the greater part of my surplus honey. A good few lime trees grow in and around our village, but the season has a lot of effect on this particular source of supply, in some years no honey being gathered from the said trees.

"In the photo are seen the figures of myself and daughter, but owing to her profession calling her away from home I am left to my own resources in the management of the apiary and putting up its honey products for sale, having now no 'good wife' (she died

MR. JOHN NIGHTINGALE'S APIARY, DODDINGTON, CAMBS.

twenty years ago) to help me as other more fortunate bee-keepers have.

"My apiary consists of forty stocks, including two 'Wells' hives, and I have an out apiary of ten stocks located four miles away in the Fens.

"I have done the best I could personally to help on the craft, and from time to time my exhibits at local shows have received under special notice, winning several prizes. Want of time, however, and the conditions under which I find myself debar me from going farther away as an exhibitor. At the same time I lose no opportunity of visiting the bigger shows, and am thereby kept in touch with the latest methods as to how and what must be done with ones products to help forward the disposal of surplus honey."

CORRESPONDENCE.

(*Continued from page* 428.)

NON-SWARMING HIVES.

MR. J. RYMER'S METHOD OF WORKING.

(*Continued from page* 420.)

[4119.] This district practically yields no clover honey, so that my whole efforts must be devoted to securing surplus from the heather. This being so, readers will understand that the system adopted has for its aim securing the greatest harvest from the heather in the least possible time. In fact, time may be said to be the most important factor in the case, the heather season being generally so short in duration that we can only rely on about twelve or fourteen days for the main income.

In considering all this my first step was to find out the most suitable hive to meet the special requirements. Fortunately, all my hives, with the exception of four, were the well-known "W.B.C.," and I soon found out that this hive was the only one to suit my purpose; so I set to work and tried all the various systems laid down to do away with swarming, but somehow every effort in this direction seemed to fail in practice. The best stocks in my apiary—those looked forward to as likely to yield the greatest amount of surplus, and from which the greatest things were expected—were the worst trangressors. Some fine day, when having a look round about noon to see how my plans were working, I would see the bees of my best stock teeming out of the hive in thousands, thus shattering one's expectations and dashing to the ground any prospect of a great heather yield for the year. Some may say, "You should have returned the swarm," but I did do that more than once, only to find that returning them never proved satisfactory or gave me the advantage I expected, so I determined to stop the thing altogether, if possible. I tried working a box of shallow-frames under the brood-nest, and this reduced swarming to a certain extent; but finding the shallow frames below often contained brood and eggs when removing them to their place overhead, I altered my plan, and when room was required to prevent swarming I put the shallow frames on the top of the brood-nest instead of below; thus it became a part of the brood-chamber. This plan answered the best of any tried so far, but did not stop swarming. I therefore took another step—one that I have never seen even suggested. I made myself a few extra brood-boxes, having decided to give each hive during the swarming season twenty brood-frames instead of the usual ten. This, I am glad to say, proved the greatest "hit" I have ever made in the bee-line, so far as single hives are concerned. But in order to explain how I proceed with working the double set of brood-frames in each hive, let me say swarming usually takes place here in the month of June. Therefore I begin early in May by looking over all hives very carefully, and any found to be full of bees at all the four corners are given a second set of ten standard frames fitted with full sheets of brood-foundation. As soon as this second brood-chamber is full of bees I add a "W.B.C." hanging section-rack, after setting on a sheet of queen-excluder zinc, and in a good many cases a second rack is needed when the first is getting full. Strange though it may seem—and taking the average—I have had more sections filled on the top of the two brood-chambers than I ever got on a single one containing the ordinary ten frames.

Now comes the sequel in obtaining a large crop of heather honey in the twelve or fourteen days given in which to gather it. About July 15 I take off all finished sections and also extract the honey from all unfinished ones. This generally occupies two days. The next thing, I first drive down—by smoking—all the bees I can out of the top brood-chamber into the bottom one. I then lift off the top one, and, after removing the queen-excluder from top-bars of the latter and setting it on those of the bottom brood-chamber, each comb is lifted and the remainder of the bees brushed from them on to a board in front of the hive before replacing the frames and setting the extra brood-box above the queen-excluder now on *top* of the ten original brood-frames left in the lower hive. Thus, the extra brood-chamber now stands above the zinc and the queen is confined below. After remaining on the hive for three weeks—to allow all brood to hatch out—the extra box is then taken off each hive and replaced by "W.B.C." section-racks. It will be readily understood that it takes two or three racks to accommodate the enormous lot of bees in each hive. The heather is in full bloom about August 12, so that every hive is so strong in bees that given a fair chance on the heather, every colony so prepared will give a good account of itself.

It is now clear to my mind that every "W.B.C." hive is a non-swarming hive

of the very best kind if the bee-keeper chooses to make it one, and certainly no other hive at present on the market so completely lends itself to my system of working. Just see what a scope one has in securing plenty of bees by means of this additional brood-chamber !

I also make it a point to renew the brood-combs in each hive every fourth year, and to do this the hives that are on turn for recombing are specially dealt with. Instead of setting the extra ten frames on the top as described above, the brood-nest is lifted off the floorboard, and the box of new frames takes its place at the bottom. The old brood-combs are removed when the time comes. Then there are the new frames of comb removed from the hives in August. Why, they are a veritable gold mine to a bee-keeper ! If you wish to extend your apiary, all you have to do is to get a few lots of driven bees, put them into your brood-boxes filled with honey taken off in August, and you have an established stock immediately the bees are run in. Or you can recomb other hives just as you please, and no feeding required. I use those combs for my "Wells" hives, giving to each four new combs every year. I have stated above that the combs of all my single hives are renewed every four years ; but I am thinking seriously of doing it every second year, as I find those with new combs nearly always do the best. In writing as above there is no attempt to say that my system would be a profitable one in every district. Each bee-keeper must make himself fully acquainted with the bee-flora of his locality, and the time when the main honey-flow may be expected ; this done, he should work accordingly. To those situated like myself, who are in possession of the proper hive, I would say, give my system a trial, and at the end of the season send on your experience to the B.B.J., and I think you will be satisfied. To my readers in the south, whose honey harvest comes much earlier than ours, try a shallow-frame box on the top of the brood-nest ; let the queen have free access to this box and note the result.

The only thing further that requires mention is a slotted adapting-board of my own devising, one of which boards is provided for every hive, and remains on at all times, being placed overhead with the slots running across top-bars of the brood-nest proper. When the second brood-chamber is added in May, the "adapter" is then between the two. But when the extra brood-chamber is removed for the heather season, the "W.B.C." section-racks are placed over this board and all excluder-zinc removed, so that the bees have free access into the sections. And when all this is cleared off at the end of the season, the board left on forms one of the best winter passages possible. It also prevents any brood combs between the two brood-chambers during the swarming season. Anything not clearly understood, I shall be glad to try and explain through the B.B.J.

Briefly stated for the use of those who care to try my plan, I may say :—These adapting-boards (made of thin wood) are 17½ by 16 in., and there is a plain margin of 1½ in. all round. The slots, or passage-ways, of which there are ten in all, are 13 in. long and ½ in. wide. They run parallel with the shortest side of the board, *i.e*, 16 in. outside measure. —J. Rymer, *Levisham Station, October* 25.

BEES REFUSING QUEENS,

THOUGH FOUR TIMES QUEENLESS.

[4120.] Some time since a correspondent gave an account of a regicidal stock, but the following seems unique :—A black stock swarmed on June 5 (the one I have mentioned under non-swarming, page 432). In July I decided to look the swarm over as to its fitness for the moors, and on doing so to my surprise I found many royal cells but no queen. This stock had not thrown off a virgin swarm I am positive ; and as they were a vicious lot I destroyed the cells and ran a queen in by the fasting method, but she was rejected. A day or two later, having a surplus Carniolan queen, I ran her in, and she was accepted ; but in a short time she, too, disappeared. I next gave the bees a frame of brood, from which a queen was raised and hatched in August, but she, too, disappeared. There were plenty of drones about and suitable weather prevailed for mating, but the queen might have been lost when out on her mating flight. Lastly, I joined a cast to them, and when I examined the combs to see if the queen was safe, the bees "balled" her, so I released and caged her and then let her run down at night. Whether she is safe I do not know, and I think it better to chance it.—Alpha, *Driffield, October* 26.

BEE-KEEPING AROUND OXFORD.

[4121.] In B.B.J. of October 11 (page 401) I note that a correspondent at Abingdon asks if there is "any heather around Oxford." In reply, I have seen heather in bloom at Nuneham Park, and also at Shotover Hill, which would yield some honey. The first-named place would, of course, be nearest to Abingdon.

I have for some time past intended writing to let you know how bee-keeping gets on around this part of Oxford, and have come to the conclusion that not very much good can be done close to Oxford. Further away on the hills chances are a good deal better, no doubt. I have been among bees all my life, but find there is a good deal to learn yet. However, in my small way I try to help who know less than myself by going here and there all over the place wherever I see a bee-hive or hear of bees being kept. In this way I met a man up Cowley and help him a bit with the

bees. I have never found any foul brood in his hives, and he owns about a dozen skeps and one frame-hive, all of which seem to do very well. My first stock was a runaway swarm which two years ago settled at the bottom of a pear tree growing against the side of a house in Pembroke-street, Oxford. I secured the swarm, carried the bees home, and hived them, but somehow these bees have never done well, but I have hopes for them doing better next year. I made a journey on my bike to a public-house outside Oxford, and there drove two lots of bees, one from a skep and one from a box. I got about 40 lb. of honey out of the two, and the landlord took the honey while I got the bees. We have now six frame-hives owned by four members of the family, my father, two brothers, and myself. We have not had foul brood in our apiary yet, but it is rather bad around Oxford, judging by what I have been told. I enclose a photo that you can see what our place is like.—F. ALLEN, *Oxford.*

FOUL BROOD LEGISLATION.

BEE-KEEPERS AND M.P.S.

[4122.] I was delighted in reading my BEE JOURNAL to see the letter from General Sir Stanley Edwardes (4107, page 411). Having paid several visits of inspection to his apiary, as expert to the K. and S. B.K.A., I know the writer to be a thoroughly practical bee-keeper, and a more painstaking one it would be difficult to find. General Edwardes does all the bee-work himself, and his apiary would be a good object-lesson for a great many fellow-craftsmen.

If a few more of our leading lights would take up the matter of foul brood—as your correspondent has done with Mr. Lawrence Hardy, M.P.—no doubt we should soon make headway towards obtaining that which is so desirable in the way of legislation.

I am sure all bee-keepers will thank Sir Stanley Edwardes for the trouble and interest he has taken, and hope others will follow his example.—W. HERROD, *Expert, K. and S. B.K.A., Swanley, Kent.*

JUDGING HONEY.

[4123.] Referring to the letter of your correspondent "Chemist" (4114, page 421), I am led to express my agreement with his view that it is not right to judge honey only by its colour, a mistake, I am afraid, often made by judges at honey-shows.

My view is that honey ought to be judged by its *different qualities.* For instance, colour, if it must be first (although I think aroma and flavour far more important), should be followed up with aroma, then flavour; next, clearness and density, in the order named, giving a number of marks for each; the honey that had the greatest number of marks from the whole to be considered best.

In our neighbourhood honey is taken year by year from hives near extensive apple-orchards of a very light colour, the lightest I have ever seen. The flavour, however, is not to be compared with a fair sample of clover honey; it is sweet, but that is all that can be said for it, and any one at all used to honey would put it aside for his own eating, while a Scotchman would probably ask if it was really honey at all?

Such honey took prizes at our Exeter show this summer, while around was any quantity of good amber-coloured honey that was not noticed, the latter being far more saleable than the former. In writing this I do not wish to praise any dark honey such as we unfortunately get at times from honey-dew, but when it comes between amber and light straw colour, both should be considered good, and the prize-winning then decided by its other qualifications.—S. HEAD, *Ivybridge, Devon, October* 29.

NON-SWARMING HIVES.

[4124.] I have had several of these in use, and my opinion of them is very favourable. Of seven known as the "Conqueror" hive and one of Meadows' this season, one only swarmed, and that was an abnormal one, on June 5. In this case very little honey had been gathered, and even the brood-nest was not completed. I had a tremendous colony this year in a "Conqueror." At one time the bees filled the two upper chambers, each holding eleven standard frames, built comb in the bottom one, and filled two racks of sections. Owing to the bad season, however, they stored very little honey in the sections, but they never once showed symptoms of swarming. The same stock occupied a "Meadows" non-swarming hive during the season of 1899; at one time they filled two boxes of shallow-frames and one rack of sections. They also built in the non-swarming chamber, where they reared drone-brood. The queen is an Italian, and it is still my strongest stock, but the Cyprians are a good second.—ALPHA, *Driffield.*

Queries and Replies.

[2540.] *Loss of Queen in October.*—I shall be glad of your advice on the following:—On October 21 I was packing my bees for winter, and on examining one of the hives I found five queen-cells, four of them containing young queens and one empty. I also saw an apparently young queen running about on the combs. 1. Do you think the old queen is dead? As there was no other brood in the hive, is it possible that the eggs from which

the queens were being raised were laid by a fertile worker? If so, will you please advise me what to do, as it is a very strong stock? Would they be all right if left till spring and then have another comb containing eggs given them from a different hive (of course, removing the young queen now in the hive), so as to get a new queen raised from the eggs given, as the one now heading the colony will be a virgin and no good? There are plenty of capped stores in the hive.—JOHN JOHNSON, *Hoghton, near Preston.*

REPLY.—There seems to be little doubt that the mother-queen of colony is dead, and that young queens have been raised from the eggs left behind at the time of her death. As the bees are strong in numbers, if a fertile queen is obtainable the colony may be saved, otherwise the only way of utilising the bees will be to unite them to another stock. It is no use leaving the virgin queen now in the hive to head the stock. She would only start the bees rearing drone-brood in worker-cells, and they would not be likely to rear another queen next year from eggs given them at that long-distant period.

[2541.] *Clearing Wax Particles from Honey.*—Would you be good enough to say what is the best treatment for extracted honey which is unstrained, and consequently has a proportion of cappings in it? The honey is very dense, and does not at all readily strain through muslin. 2. Would steeping the tin containing it in hot water answer the purpose and not spoil the aroma? 3. Can you suggest a better strainer than muslin?—KENT, *Hextable, October* 26.

REPLY.—1. The best treatment we know of under the circumstances is to steep the strainer-muslin in hot water, wring it out, and stretch it across the vessel into which the honey is to run. Pour on the muslin, while the latter is still damp, as much honey as convenient, and then set the vessel in front of the fire while straining through. 2. Heating the honey as proposed would not remove the particles of wax so well as straining, besides tending to spoil the aroma. 3. No.

[2542.] *Dry-sugar Feeders.*—Having about a dozen dry-sugar feeders by me (made in the shape of a dummy-board) which is to be placed in the body (American principle, I think), I should be glad to hear the opinion of bee-keepers thereon? Can they be used with advantage for spring, summer, or winter use, and how? Also if suitable for stocks not up to weight? Each feeder holds about 7 lb. of sugar.—G. L. W., *Weybridge, October* 26.

REPLY. — Personally we may say the "feeder" referred to is not an American idea, and is, we believe, not used in the U.S.A. Regarding this country, we know it has been tried, but dry-sugar feeding is now seldom heard of, raw sugar being bad for bees.

[2543.] *Wintering Bees in Greenhouse.*—Having a fancy to become a bee-keeper, I purchased in April last a good stock of bees in a frame-hive. In the last week of June a strong swarm came off which I hived in a frame-hive. Being a perfect novice at the craft and no bees being kept anywhere about in this district, I am anxious about the winter treatment of the parent stock in the old hive, the bees of which seem to be very quiet just now, while those of the swarm seem to be working hard to-day (October 23) carrying pollen into the hive. Of course, I have been giving them syrup and candy. I made a large cake of the latter, weighing 5 lb., and have placed it over the brood-frames. The bees have now filled four frames with comb and brood (that is, the swarm), and what I want to know is, would it be a good plan to take them for the winter months into a greenhouse, as I have any amount of glass accommodation, and am very anxious to keep my bees, not being particular about profit so long as I winter them safely, as they have been a source of great pleasure to me this summer. I have got no honey from them, but I think they have enough food if they will take it. The district is very cold, so if you think it would be better to take them under cover, I will do so. I should like to know when they give over flying for the season, and about the time to expect them to start coming out next season. I take your JOURNAL weekly and have got all my knowledge from it, and wish it every success.—HARRY MILNER, *Bradford, October* 23.

REPLY.—On no account should you attempt to winter the bees under glass in the greenhouse. Wrap them as warmly as possible where they now stand, but let them have a chance to fly abroad whenever the weather allows them to do so. Keeping bees in greenhouses during winter has always proved a failure. The greater activity of the swarm is no doubt attributable to their being fed just now.

[2544.] *Heather Honey "Working."*—Is there any way of preventing heather honey from "working?" I do not mean fermenting, but rising up and working even through the cork as if it were undergoing fermentation?—ALPHA, *Driffield.*

REPLY.—We do not know of any means of preventing what our correspondent complains of. Nor are we aware that the symptoms mentioned are common. We never experienced anything ourselves beyond the natural rising of air to the top, which must result from air-bubbles, the honey being "pressed" out of the combs, not "extracted."

[2545.] *Building Up Stocks from Driven Bees.*—On September 10 and 17 last I drove two skeps and put the bees in frame-hives. I then started to feed them. To the first lot I gave a frame of honey weighing about 4½ lb. and four frames of foundation. The second hive got six frames full of foundation; and on the

28th one of these latter was taken out and replaced by two frames of honey weighing about 7 lb. At the time mentioned the first lot of bees had apparently drawn out all the four frames of foundation given them when hived, and the second lot were also drawing out four of their six frames. Up to October 19 they got between them about 24 lb. of syrup. 1. Do you think they will have enough food to live on? I ask this because recent articles in the BEE JOURNAL have made me very uneasy. 2. I want you also to give me the proper inside dimensions for a frame to hold half a boiling of candy made from 6 lb. sugar. I will give no more syrup, but would put this frame on and cover with a sheet of glass. On a favourable day in the winter I could put in new ones if the others were empty. Would this be right, and should the paper be removed from bottom of candy before placing on frames?—SLIEVE DONARD, *Newcastle, co. Down, October* 23.

REPLY.—1. No, not nearly enough; each colony should have 18 or 20 lb. of food at least to winter on. 2. A box about the size of two 1-lb. sections will be quite large enough to give the bees at one time if a glass top is inserted to show when the food needs renewing. Too large a cake will not allow of quilts being nicely packed down for warmth, and may become hard before it is all consumed unless specially well made. Do not put paper between the food and the bees.

Bee Shows to Come.

October 31 to November 7, at St. George's Drill Hall, Newcastle-on-Tyne. — The Great North of England Grocers', Bakers', and Confectioners' Exhibition. British Honey Competitions open to all bee-keepers. Classes for Honey Trophy, Sections, Extracted Honey, and for Extracted Heather-Honey. Schedules and particulars from W. Herrod, Horticultural College, Swanley, Kent.

November 15, at the Town Hall, Ludlow, in connection with the sixth annual exhibition of the Chrysanthemum and Fruit Society. Two open classes for sixes. Schedules, &c., from Jno. Palmer, Hon. Sec., Ludlow. **Entries close November 6.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** *Re* the Basingstoke Compensation Fund, Mr. Geo. Ledger writes to say that his name does not appear in the list of those who contributed at the conversazione. We are sorry for this, especially because the mistake must be our own, as having charge of the donations handed up the room. But he may take it from us that the sum was included under some wrong name, for we know the total amount given is correct. So rapidly, however, were the contributions passed up that several names were "upon us" at one time, and no doubt the error arose in this way.—EDS.

C. R. D. (Devon).—*Keeping Bees on a Large Scale for Profit.*—There is no doubt that by locating bees in groups a mile apart the risks of heavy loss from disease are considerably lessened, but on the other hand it would add very much to the labour and cost of working. Two or three apiaries at most would be as many "groups" of hives as we should advise being kept. So much depends on location and management that it makes us averse to name an average yield. Some would consider an average of 50 lb. of surplus readily obtainable, but it is only in fairly good districts and with good management that a hundred or more hives can be counted on for securing that weight each per annum. Read what appears in our issue of the 25th ult. (page 419) to see what can be done sometimes in a heather district so far as regards averages.

HARRY MILLER (Bradford).—*Insect Nomenclature.*—1. The insect sent is the *Eristalis tenax* or drone fly, so called from its resemblance to the drone bee. 2. Bees are the brown variety most common in this country.

ENQUIRER (Alresford).—*Insect Nomenclature.*—The insect is commonly known as the drone-fly (see reply to "Harry Miller").

G. L. W. (Weybridge).—*Naphthol Beta Solution.*—If your chemist has prepared for you a solution of N. Beta in the proportion stated, you had better get him to say how it works out when compared with the directions given on packet. "15 gr. N. Beta to the teaspoonful" is too vague, nor can we tell "how many drops" of such a solution would suffice to medicate correctly "each pound of sugar."

STRABANE (Ireland).—*Raising Queen-Cells.—Sending Queens by Post.*—1. The dead queen-bee sent was quite unfit for examination, being quite dry, hard, and apparently had been soaked in syrup, which latter was crystallised on the body. It looked rather like a virgin queen, but no accurate opinion could be formed. 2. An unmated queen has a much more pointed abdomen than a fertile one. 3. No; bees could not possibly bulld queen-cells and have the larvæ therein sealed over in six days.

Editorial, Notices, &c.

GROCERS' AND BAKERS' EXHIBITION,

NEWCASTLE-ON-TYNE.

The Exhibition announced in our columns on the 18th ult. opened at the St. George's Drill Hall, Newcastle-on-Tyne, on October 31, and continued till yesterday, the 7th inst. We have not yet been furnished with particulars regarding the Exhibition, but hope to have details for our next issue. We are, however, enabled to print the awards in the Honey Competitions, which are as follows :—

CLASS W.

Twelve 1-lb. Jars Heather Honey.—1st (and B.B.K.A. Cert.), Jno. Berry, Llanrwst, North Wales; 2nd, Jonathan Shaw, Sandsend, near Whitby, Yorks; 3rd, H. Wood, Paradise, Lichfield, Staffs; v.h.c., Jas. Waddell, Wooler, Northumberland; v.h.c., Wm. Dixon, Beckett-street, Leeds.

CLASS X.

Twelve 1-lb. Jars Extracted Honey (light).—1st (and B.B.K.A. Bronze Medal), J. Smart, Andover, Hants; 2nd, J. H. Seabrook, Longfield, Kent; 3rd, C. Dunn-Gardner, Fordham Abbey, Soham, Cambs; v.h.c., F. Chapman, The Dairy, Wells, Somerset; v.h.c., Geo. Walker, Honeymead, Wendover, Bucks.

CLASS Y.

Twelve 1-lb. Sections.—1st, W. Woodley, Beedon, Newbury; 2nd, Richard Barber, Bourne End, Bucks; 3rd, F. Chapman; v.h.c., Geo. Walker; v.h.c., Jas. Waddell; v.h.c., J. M. Balmbra, Alnwick, Northumberland.

CLASS Z.

Honey Trophy (Approximate weight 150 lb.).—1st (and B.B.K.A. Silver Medal), Jas. Waddell.

IRISH BEE-KEEPERS' ASSOCIATION.

A meeting of the Committee of the I.B.K.A. was held on October 24 at Dr. Traill's rooms, Trinity College. Present—Mr. Gillies, in the chair; Dr. Traill, Messrs. Abbott, Delap, O'Bryen, Watson, and M. H. Read, Hon. Secretary. An expert's certificate of the I.B.K.A. was granted to Mr. Beamish, of Kilmeague, and the meeting adjourned till Saturday, the 27th, for the purpose of considering a scheme for the extensive promotion of bee-keeping in Ireland, to be submitted to the Board of Agriculture.

At the adjourned meeting there were present—Dr. Traill, in the chair; Messrs. Delap, Gillies, O'Bryen, Watson, and Read; and a scheme presented by the Hon. Secretary, to be carried out with the aid of the Board, was, with some amendments, adopted.

THE BASINGSTOKE BEE-CASE.

We have received the following letter (accompanied by receipts for payment), which explains itself.—EDS. :—

"Ramsdell, Basingstoke,
November 2, 1900.

"DEAR EDITORS,—Your welcome cheque safely received. Receipted bills are enclosed to enable you to verify payment of same, as requested. Let me now ask you to tender, through the pages of the JOURNAL, my most sincere and grateful thanks to those who have so kindly contributed towards my expenses, thereby showing a sympathy for which I am truly thankful to each and every one.—I remain, yours truly, W. J. LONGLEY."

REVIEWS OF FOREIGN BEE-JOURNALS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Praktischer Wegweiser für Bienenzüchter (Germany).—German, Hungarian, and Austrian bee-keepers purpose holding their Annual Exhibition and Congress next year at Breslau, probably as before, during August.

From the village of Koppen (Neumark) comes the complaint of a lady bee-keeper in which the "Meloë variegatus," the oil or May beetle, figures as the culprit. This beetle appeared in immense numbers, proving a source of great annoyance and danger to the apiarist.

Schweizer Bienenzeitung (Switzerland).—A bee-keeper during the process of bottling carelessly allowed the running honey to remain for some time in a vessel made of sheet zinc. The honey became acid, and was rendered valueless (poisoned) by the zinc being oxidised. Half the number of colonies fed with the honey perished.

Praktischer Wegweiser gives the Cyprian bees a very bad name, and advises bee-keepers to keep them at a distance on account of their viciousness and propensities for stinging. The latter they are said to do regardless of provocation or otherwise.

Several years ago a sugar manufacturer in Bavaria was in the habit of placing jars of liquid sugar in the open, causing on one occasion the death of thousands of bees.

Six neighbours who had suffered rather badly, and possessing together 112 colonies, claimed damages to the extent of 616 marks (roughly £30 10s.).

The defendant maintained, first, that the workmen had been annoyed, hindered, and stung by the bees; second, that the latter removed 56 lb. of sugar a day; third, that the adjustment of wire gauze in the windows would, on account of the heat, prove injurious to the men.

The plaintiffs, however, carried their point

in pressing their view that the exposure of sugar in the open attracted the insects. The Court gave judgment for the plaintiffs, defendant having to pay £2 10s. fine and costs on both sides.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NON-SWARMING HIVES.

IS SWARM-PREVENTING DESIRABLE?

[4125] Referring to the letters 4111 (page 419) and 4119 (page 430), I think North Country bee-keepers are indebted to Mr. Rymer for the excellent account of his bee-operations. But while it is evident that Mr. Rymer has been successful in obtaining big yields of heather-honey by his system of extending, and subsequently contracting, the brood-nest, I have a few objections to the adoption of the system, including, amongst others, (1) Additional expense of buying or rearing queens to re-queen hives, and the trouble of introducing same, &c.; (2) Extra labour to bee-keeper in extending and contracting brood-nest; (3) Cost of brood-foundation.

Without knowing why, I do not like any scheme of bee-keeping which proposes to stop swarming altogether. Such a consummation would deprive me of many suspenses, chances, and excitements (vexatious and otherwise), but bee-keeping without these would be merely a trivial round and a commonplace task; in short, it would be bee-keeping deprived of its "glorious uncertainties." Mr. Rymer's great hit and success, initially, is no doubt due to the large number of bees his system gives him for the heather harvest; but I do not see how he can get more bees from one queen than can be produced by two or three queens under a system of permitting swarming, say, up to the middle of June. For example: if a stock swarmed on June 1 and I hived it on ten combs, I would have at the moors two hives, viz., the parent stock (headed by a young queen) and the swarm. Of course, the ten combs in each hive would be reduced to seven or eight by taking out before sending to the moors any combs on which the bees were not breeding, or combs containing only a small patch of brood. I am confident that two such hives would on August 12 contain many more bees than would have been in existence if the stock had not swarmed in consequence of an extension of its brood-nest.

Mr. Rymer has perfected a system which in his hands is apparently a good one, but how many can systematically follow a system out? As a bee-keeper in a heather district I will go slow in the pathway of non-swarming. There is honey in prospect when early swarms are on the wing. It is July swarming that spoils the season. I think that the best results may be obtained by encouraging bees to build up their numbers to great strength early in the season, to get as much surplus clover-honey as possible, and to welcome all swarms up to middle of June. After this date if a swarm does come and we are not glad, what should we do with it? That is the problem to be solved by the north country bee-keeper. If he wants heather-honey he will return the bees in the usual way; if cash is most desired he will sell the swarm. If he desires bees, as he usually does, he puts the swarm into an empty hive, which he sends to the moors together with the stock, fondly expecting a splendid harvest from them, and when they do not come up to expectations he reflects that they will make good "keepers." In conclusion, I am inclined to think that Mr. Rymer's success is due largely to a lavish use of brood foundation, to his careful management, and to the use at the heather harvest of worked-out surplus combs.—JNO. N. KIDD, *Stocksfield, November* 2.

HEATHER HONEY "WORKING."

HOW I OVERCAME THE DIFFICULTY.

[4126.] Referring to the question in this week's JOURNAL (2544, page 433) on "Heather Honey 'Working,'" I have been wondering many a time that so little has been written on this subject, for I should think that every bee-keeper in heather districts must have known it to his sorrow some time or another. When the question of heather honey "fermenting" comes forward, the reply nearly always is that it is "unripe," but my experience with heather honey for about twenty years past is that the ripest and thickest is more apt to ferment than the very thinnest. It will keep all right through the winter and spring, but as soon as warm weather comes in the following early summer the honey is apt to ferment, or start "working," as your correspondent "Alpha" calls it. I have seen screw-capped jars bursting when this condition is reached, and the only reason I can suggest is that the "air-bubbles," you mention in reply to "Alpha's" query are the cause, for it is impossible to get these air-bubbles out of *good ripe heather* by heating or in any other way. I have been experimenting a good deal on the best method of preserving heather-honey in good condition, and, among other ways, tried keeping unripe heather that had been only three days in the hive and was as thin as water (honey from heather is thinner than any other I know of

when newly gathered, and for three or four days after), and notwithstanding its "unripeness," this honey kept all right, but showed no sign of granulating. In fact, it was quite clear, exactly the same to the eye as the day it was bottled, but on opening the jar it was one solid mass of jelly-like consistency. When warm weather came the following summer, however, the honey returned to its liquid form again, but without showing any signs of fermentation. In view of the expeperience thus gained I adopted the plan, when pressing my heather honey, of mixing the unsealed combs with the sealed ones, in order to thin the honey and help to clear the air-bubbles out of it, and I have never had it to ferment after this "thinning" process.

I am sending you by same post a sample of 1899 heather-honey that has been mixed with water (1 oz. of water to 15 oz. heather honey) as an experiment on the line of making it keep well, and, as you will find, it has kept all right and is now in good condition.

I should be pleased to see a few lines on this subject in the JOURNAL by our Scotch friend, Mr. McNally, or any other beekeeper of experience in a heather district.—JNO. BERRY, *Llanrwst, N. Wales, November* 3.

[There is no sign whatever of fermentation in sample received. It is sufficiently liquid to run out of jar on reversing the latter, while having the appearance of granulated heather-honey.—EDS.]

PREVENTION OF SWARMING.

MR. RYMER'S METHOD.

[4127.] I have been reading with much interest Mr. Rymer's method of working his hives so as to prevent swarming, as given in the B.B.J. of October 25 and November 1, and should like to try the method next season. As Mr. Rymer kindly offers to make clear anything which may not be quite understood from his account, I should like to ask for a more complete description of the "adapting board" he has devised. From the account given I imagine the board to be somewhat like rough sketch sent. If I am correct in this conclusion I should like to ask, "What is the width of the spaces or channels?" He says there are ten passage ways. Now the room allowed for them is 14½ in. in all, and if the wood used is ½ in. thick, this leaves 10 in. for the ten spaces, or 1 in. each. This seems such a very wide bee-passage. I should like also to ask the following questions:—1. What space is allowed between the bottom of the frames in the upper brood-chamber and the top surface of the "adapter"? 2. Why is it safe to remove excluder-zinc when the section-racks are put on in August for the heather? With such a crowded hive is there no fear of the queen going up into the sections? 3. The operation described as taking place about July 15, apparently has for its object the securing of the queen in the lower brood-chamber. But if she happened to be at the time on one of the frames in the upper chamber, is there no risk of losing or damaging her by brushing her off along with the other bees on to a board in front of hive? 4. After allowing three weeks for all brood in upper chamber to hatch out, how is this chamber removed so as to get the bees out? Are they simply shaken off each comb separately, or is a super-clearer used?—G. S. NEWTH, *Wallington, Surrey, November* 3.

[We hope to be able to give an illustration of Mr. Rymer's "adapting board" shortly.—EDS.]

FUGITIVE PAPERS

ON ANCIENT BEE-BOOKS.

[4128.] We modern bee-keepers little realise the amount of difficulty which those of bygone ages had in discovering facts regarding the nature of the honey bee. Until the time of Huber the hive was a sealed book, and it was the privilege of that great man to break some of the seals and find the true reading of some of the pages of that wonderful book.

He was much like Galileo, for his discoveries so revolutionised the settled ideas of the age in which he lived, that no terms of ridicule were thought too strong to apply to him. We have only to read a treatise on bees by Robert Huish, published as recently as 1844, to see the terms of opprobium poured upon Huber. To use Huish's own words he applies "the lash of ridicule upon this falsely celebrated naturalist," and declares "that the majority of the vaunted discoveries of Huber are the result of fiction and delusion."

It may perhaps be of some interest to us during the winter season when we are taking stock of the past with its successes and failures, and reading-up some of our modern standard bee literature to ensure greater success another year, also to look a little into the past. It is surely delightful to see some of the old-world ideas, some of what we may call the classics of bee-keeping, and note the quaint conceits and strange fancies which died such hard deaths before a sound foundation of fact could be reached. In justice to the painstaking and often learned writers on bees, we must remember how difficult it was for them to make correct observations on what took place in the interior of their hives. The result was just what might be expected. They got hold of much truth, but also of much error. When we see how careful they were, how burning to unravel the mysteries of the craft, we can only be sorry that, for their own sakes, they did not possess the modern frame-hive to add to their happiness.

One of the early bee-books has the curious title, "The Feminine Monarchy." A copy of this has been lent me by the Rev. Sumner Wilson, of Preston Candover, Hants. It is dated 1704, and on the title-page is printed, "Written in Latin by Charles Butler, and now

translated into English." Mr. Wilson makes an interesting reference to *Notes and Queries*, September 29, 1894, where the Rev. C. S. Ward, Vicar of Wootton St. Lawrence, writes to correct the "Dictionary of National Biography," and states that Charles Butler was born in 1560, was master of Holy Ghost Chapel, Basingstoke, January, 1595, holding it till Michaelmas, 1600, when he was preferred to Wootton; he died March 29, 1647, and is buried in the chancel of Wootton Church. A curious fact about "The Feminine Monarchy" has escaped the "Dictionary" writer. As stated by him, the book was translated into Latin, but it should have been added that this version was mistaken for an original work, and rendered back into English in 1704. Mr. Ward, in the article in *Notes and Queries*, says:—"I came across a copy of this edition a few years ago, and presented it to the British Museum, which did not possess it." If of sufficient interest to the readers of our JOURNAL, I propose in a future article to give a few quaint extracts from "The Feminine Monarchy."—A. A. HEADLEY, *Alresford Rectory, Hants, October* 31.

[We shall be very pleased to have a continuance of our Reverend correspondent's "Fugitive Papers," which promise to be interesting and instructive.—EDS.]

GRANULATION OF HONEY.

A SEVEN YEARS' RECORD.

[4129.] I was much interested in the report of the Conversazione (page 425) about the granulation of honey, because I have samples still liquid. Occasionally I have noticed that some would granulate more quickly than others, both being subject to the same conditions. The crystals, too, have not always been equally fine and smooth—some were nearly as coarse as those to be seen in good brown Demerara sugar—but I have no specimen now. A sample of 1892 dark-coloured has fine granules.

Perhaps the following particulars may be interesting—all the samples are in 1 oz. phials, and labelled as to year.

1893. Nearly one-third granulated, with fine, smooth grain; remainder clear as water.

1894. Nearly half granulated; has apparently a little crystallised, smooth grain, and remainder clear as water.

1897. Nearly one-third granulated on glass only, all the other quite clear; light colour.

1897. Nearly half granulated, granules somewhat coarse; dark colour.

1898. Nearly three-quarters cloudy granules; rather dense golden colour.

1898. Nearly one-third granulated, fine and smooth, remainder slightly cloudy.

1899. Cloudy, less so at top.

1900. Very slight indication of cloudiness throughout.

Of 1897 I have a pound jar most beautifully, finely, and smoothly granulated throughout. It is very light in colour, and friends and customers alike pronounced it to be "most delicious." I have had none like it since. This season is fearfully disappointing with me. I may term it a failure, for I lost stocks in the spring, lost a swarm in very adverse weather in August, and the other swarms (one purchased) require additional food to carry them through the coming winter —J. Q., *November* 1.

NOTES FROM SCOTLAND.

PRICE OF HONEY.

[4130.] In reply to numerous bee-keepers who, after perusing my letter (4112, page 420), have written me in regard to the high price we obtain for honey here, allow me to state that during the months of May, June, and up to end of September, something like 47,000 persons pass this way on their visiting "Burns' Monument," and being on their holidays, generally from the towns, they are only too pleased to take something back from the country with them in the way of a few flowers or a pound or two of honey; provided that the article is nicely got up they do not grudge paying a fair price for it. Of course, to home customers the price is reduced to 10d. and 1s. according to the quality, &c. Since writing my last "notes" the weather has been fearful, rain more or less every day, with corn still out in the fields yet. As a rule the temperature has been fairly high, and during the short periods when no rain was falling the bees took the chance of an outing. In one or two cases I noticed a few carrying in pollen, chiefly got from the arbutus, which is a mass of flower just now, with ivy bloom following hard upon it, along with that beautiful flowering shrub, *Laurestinus*, a good specimen of which will flower for nine months in the year. Beyond giving a cake of candy to one needy stock, the bees are left severely alone. This long spell of wet on the west coast has tried the water-tight qualities of the hives rather severely, and a look at quilts on a dry day would not be amiss. If the sun shone for an hour or two the roofs could be lifted off, leaving the quilts exposed to its rays; even if they are not the least damp, it is wonderful how it freshens them up. For those who want a cheap packing, easily renewed with no trouble or expense, there is nothing better than plenty of newspapers with a piece of calico next to frames. They can be renewed as often as required, and being good non-conductors they conserve the heat, helping an even temperature in the hive. The long winter nights are now upon us and bee-keepers can find the time to lay plans and make preparations for the coming season, 1901, which will soon be upon us with all its trials and pleasures, its thorns and roses. Empty combs can be overhauled to see that no wax moth can or has

entered; frames may be "wired," new hives made for busy generations yet unborn, and countless other items that the handy bee-keeper may do for himself and so keep down expense.—J. GUTHRIE (Guthrie Bros.), *Alloway, N.B., November 3.*

HOW TO UTILISE SWARMS

WHERE INCREASE OF HIVES NOT DESIRED.

[4131.] The experience of last season in most districts of persistent swarming, in defiance of all recognised rules for its prevention, has led me to consider, whether a plan could not be devised to utilise such swarms for the benefit of the parent-hive and also of our honey harvest. After giving the question a good deal of consideration, I venture to put forward a plan which to my mind has much to recommend it, while it includes some points which, so far as my study of bee-literature is concerned, are original. Whether my plan contains weak points, not fully appreciated by the writer, I leave your more experienced readers to judge. In giving my ideas, I shall be glad to have full criticism, merely premising that my plan would be more suitable for early swarms than late ones, the object being to secure a strong hive in time for honey-flow.

We will then suppose a swarm comes off early in June. I propose to hive it in a surplus box containing ten shallow frames.

The parent hive, I will suppose, has a rack of sections on it. On top of this a sheet of perforated zinc is put, and over this is placed the shallow-frame box containing swarm, which, of course, is given a separate entrance of its own for the bees. Before doing this it might be desirable to examine parent hive and cut out surplus queen-cells to prevent casts. Thus we have the swarm on top of the original hive, separated by sheet of perforated zinc only.

The swarm would commence work immediately, drawing out combs, and in a few days its queen would be filling them with eggs. Within a fortnight it might be necessary to put on a rack of sections, owing to limited space in the shallow-frame box. At the end of three weeks the conditions of the two hives, I estimate, would be :—

Take first the "parent" hive. Here all the eggs laid by old queen will have hatched, and the young queen may be assumed to have started about four days before to deposit eggs. Then, as to the swarm. By this time the combs will have been all built out and well filled with brood, some being nearly ready to hatch, and work will be commenced in the sections overhead. About this stage I would examine the swarm and take away its queen. Twenty-four hours afterwards I would close up its entrance and remove the sheet of perforated zinc between it and the parent hive, the use of which was, while separating the respective bees and queens, to keep them so far in contact as to give to all the same smell. In this way we re-unite the swarm with its parent bees all working from one entrance.

The bees in the upper hive thus would join those in the lower one, leaving the shallow frames and sections to be storehouses for surplus honey.

In this way the original swarm, strengthened by additional brood and comb, would be given back to the parent hive in time for devoting the united efforts of the doubled colony to the production of honey. Some advantages of this plan in my opinion would be :—1. Taking advantage of the "comb-building impulse" known to all swarms when first hived. 2. Both old and young queens working for time being in practically the same hive. 3. When united the combined hive is headed by young queen. 4. Little disturbance or interruption of work takes place.—D. P. H., *Cupar, Fife, N.B., November 5.*

[We will be glad to have the comments of experienced bee-keepers on the above for publication, and as our correspondent no doubt intends to give the plan a practical trial in the coming year, we hope to hear how it fares in his hands. For this reason we make no comment just now, preferring to let the plan be judged by "practice" as against "theory" from results obtained by the originator himself.—EDS.]

SENDING HONEY BY RAIL.

"HANDLING" AND CHARGES FOR CARRIAGE.

[4132.] I think it is time some publicity was given to the way honey is treated by the railway officials, both for cost of carriage and smashing of glass jars. I entered 37 lb. of extracted honey for competition at Melton Constable Show on August Bank Holiday. Of course, it was "got up" in the most presentable manner possible for the show-bench, and carefully packed. I labelled it, "With care," "Honey in glass bottles," "Fragile," "This side up." Three days later I received a letter the from the Show secretary informing me the box had evidently been very roughly handled, and stood bottom upwards, as the honey had run out and he and his assistant had to wash all bottles before staging my exhibit. The state in which it had been received was proved by the condition of the box when returned to me. I believe third-class railway fare for the return journey is 6s. 3d.; my exhibit cost 4s. 5d. for carriage each way, 8s. 10d. in all. I have therefore decided to go myself in future, or send it by messenger, pay his railway fare, and a day's wages. You see the company will carry man and honey cheaper than honey only!

Another case in point: I have been sending eggs away occasionally, and have found the parcels post safer than rail, so when I received

an order for a dozen 1-lb. jars of honey to be sent to London I determined to be particular. I made a box with twelve separate compartments and wrapped each bottle in corrugated paper. I also consigned it at "company's risk," paying 1s. 11d. instead of about 6d. One bottle was smashed and another cracked. In my innocence I thought that "company's risk" meant that they would be responsible for "breakage," so I sent in a "claim," but have never yet received a reply, although, on inquiry, the stationmaster admitted receipt of my letter.

Last year I received a case of honey-jars packed in shavings, "at company's risk." Six jars were broken. On inquiry, I was informed that it was useless to claim, as the company only accepted such goods if *properly packed*, and "if properly packed they could not be broken!"

To cap it all, and conclude. My last consignment of honey was a box of 6 1-lb. jars to London. I did not label it honey or anything else. I sent it at "owner's risk." Carriage paid was 4d., sent as "garden produce." Result: perfectly satisfactory—no breakage—all safe!

It appears to me the moral is, consign all honey at owner's risk, and let the difference between owner's risk and company's risk be saved as an insurance against breakages. I fear we have no other remedy.—W. J. Belderson, *Terrington St. Clement, Lynn, Norfolk.*

JUDGING AT HONEY SHOWS.

[4133.] I am sorry if I have misconstrued Mr. Seymour's letter in B.J. of November 1 (4118, page 410), though he therein again reiterates his remark that "the bulk of our judges would not trouble to open a jar of honey that (dark) colour." He should remember that it was the prejudice against dark-coloured honey to which I wished to make an objection, because all dark honey cannot be classed as inferior.

I could not draw a clearer definition for judging than that stated in the second paragraph of Mr. Head's letter on page 432, the necessity for its broad principles being proved by the remainder of his letter. This would prevent such an anomaly as sending a "fourth quality" sample to the show-bench in the hope of gaining a prize.

The reason I did not write about the "Royal" Show earlier was that I thought any criticism would have been consigned to the waste-paper basket; an evident injustice to the Editors for which I apologise. I desired to criticise "honey judging" in general and not that at the "Dairy" in particular, though giving the concrete examples, to which exception has been taken as being rather late in the day.

I am, however, very pleased to see the unanimous opinions expressed by your correspondents as it shows something to be radically unsatisfactory, and hope Mr. Seymour may be able to use his influence with the "powers that be" to secure some alteration.—Chemist, *Sheffield, November 5.*

[Without desiring either to repress or unduly prolong the free expression of opinion on the subject of "judging" it may be well to disabuse the minds of those who seem to have the idea that experienced judges prefer colour to flavour in honey. Our experience of judges and judging conclusively proves that such an idea is entirely erroneous. The main point is, and always should be, "flavour."—Eds.]

BEES IN THE DAYS OF THE SAXONS.

[4134.] The following may prove to be of some interest to such of your readers who are archæologists as well as bee-keepers, and this must be my apology for sending it for insertion in your columns.

Extract from "Earle's Saxon Charters" (1888), page 276, which is of about eleventh century:—

"Geburas" on the Hatfield (Herts) estate, their relationships, their settlements on other estates, and their inter-marriages with "Geburas" of other manors.

"Hwita hatte waes beocere into Haedfelda" ("Hwita was the name of the bee-keeper in Hatfield"). His daughters were—

Taté, the foster-mother of Wulfsige. Lulle, Wulfsige's sister, married Hehstan of Walden.

Cenwald married Maeg of Welwyn.

—married Ealdelin, Herethrythe's son.

These "Geburas" (boors) were the agricultural population of the manor, who tilled it and paid rent in produce (? some honey), in money, and in work. They were serfs, "adscripti glebæ," and the lord had a proprietary interest in them, which gives the motive of this record. The Hatfield serfs had relations at Datchworth, Walden, Welwyn, Watton, Munden, Wymondly, Essendon, &c.

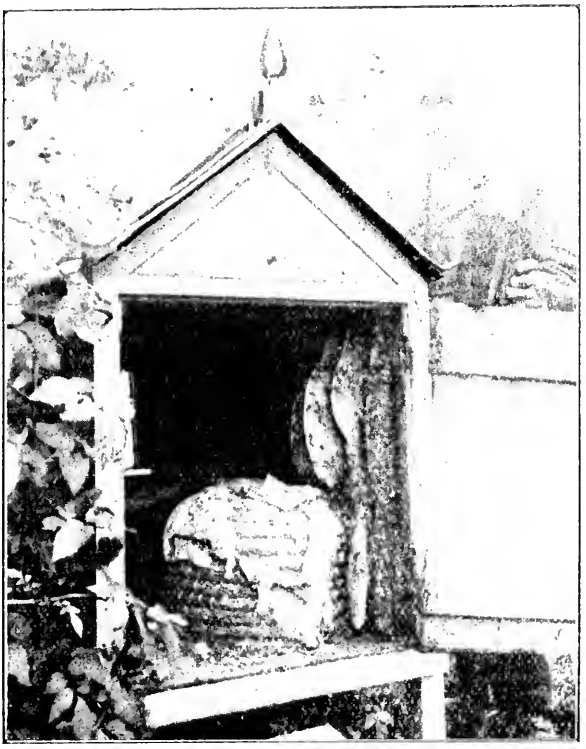
Now, seeing that the relatives of this bee-keeper were certainly at Walden and Welwyn, and we may well suppose that other geburas were bee-keepers also, it would go far to explain how bee-keeping was spread into other places, for no doubt Hwita's daughters took as much (perhaps more) interest in the profitable pursuit than do the ladies (generally) of the present day, especially as it might well have been that honey and wax were part payment of the lord's rent, and, it may be, induced their husbands and other relations to keep bees, although it is believed that bee-keeping was much more in vogue and with almost every cottager in those days.

Trusting you will think this worth your using in B.B.J.—"A.," *Hertford.*

AN INTERESTING PHOTO.

We some time ago received the photo from which the accompanying interesting illustration has been reproduced. It represents one end of an old bee-house made to accommodate four stocks of bees in straw skeps, and, as seen, there are combs built to the woodwork—and occupied by bees—outside the skep. The photo was sent by Mr. H. O. Smith, a member and district secretary of the Lincs B.K.A. Mr. Smith, being an active and enthusiastic bee-man, does a good deal of expert work for the Association, and it was on one of his annual tours among members that he discovered the bee-house shown. In response to our request for some particulars regarding the curious specimen of bees living in harmony depicted in the photo, Mr. Smith writes as follows:—

"I visit members of my district every autumn. When on one of my tours I called on a Mr. Broadley, of Gurmoldby, and there found a bee-house about 10 ft. long, with a door at each end, made to accommodate four skeps, the entrances being along the front. The bees were evidently not often examined, for on opening one door I found the skep nearest me had apparently sent out a swarm, which from some cause had returned to the old spot and built combs to the front and top of the bee-house, forming a separate colony, both lots working peaceably together and using the one entrance. A clergyman—an amateur photographer—from London with his camera happened to be in the neighbourhood seeking novelties and wished to have a photo of the bees, so I kept them quiet while he took their photos. I thought it would possess some interest for the B.B.J., of which I first became a reader in 1881, and therefore send it on to you for insertion if considered suitable."



PARENT STOCK AND SWARM WORKING IN HARMONY.

Echoes from the Hives.

Terrington St. Clement, Norfolk, October 29.—I have now finished the final examination of my hives for the season. The amount of brood in all stages is surprising, some stocks having four frames fairly filled with brood. This can be explained by the fact that there is a large quantity of ivy about here, and it has flowered so abundantly that the bees have been busy carrying in honey and pollen almost daily during the bright weather of October. There is a good quantity of uncapped honey in the hives, but perhaps the combs may yet get sealed over, as it is of recent collection. On October 4 I put cakes of candy on seven hives (I generally pour the candy before it "sets" into a section glazed on one side). I find this is all eaten, and in three of the seven hives the section is fairly well filled with comb. In one case the newly-built comb had several cells filled with honey. I have previously mentioned that my honey is being disposed of in Lynn market. The remarks made upon the quality and price are very amusing. For some customers the honey is "*too white* to be good"; others admire its colour. Some say 10d. per lb. is wonderfully cheap, and others complain of the price being high. One good lady had decided to purchase 3 lb. at 10d. per lb., when her companion informed her "that she could obtain it for her at 6d., carriage paid." She would not, however, give me the address. Robbing has been very bad this autumn. I had one stock very nearly cleared out, and one side of a "Wells" hive

was robbed clean one Sunday morning about a month ago. Sprinkling the bees with water is evidently a poor remedy, for it rained in torrents for eight or nine hours and the bees were hard at it, robbing all the time. I expect the bees have gone to the other end of the "Wells." Wasps have been very numerous and destructive.—W. J. BELDERSON.

THE LEGAL RIGHTS OF BEE-KEEPERS.

BY MR. HERMAN F. MOORE.

Read at the Annual Convention of the National Bee-keepers' Association, held at Chicago, Ill., August 28, 29, *and* 30, 1900.

As an axiom it may be stated that apiarists have as many rights as ordinary citizens, and as many more as they can discover in the constitution of the United States and the common law. In the statutes of the United States, and of the different States, very few laws are found favouring bee-keeping in particular over any other occupation. Law makers try to make the laws cover all possible cases of a particular kind, hence are most general in their terms of command or prohibition. Bee-keepers have, in common with others, a right to "life, liberty, and the pursuit of happiness," or business in their own peculiar way, subject always to the equal rights of others. This "rights of others" has been the stumbling-block in the way of many of our fraternity. The legal construction of "rights of others" has made all the litigation, from the beginning, on all matters.

There is in the minds of many people who do not keep bees, and know nothing of their habits, an insane fear of a bee-sting, for themselves or their children. A bee-keeper settles in their vicinity, and perhaps makes no effort to be agreeable, or to show his pets, and their harmless little ways. A child, a cow, or a horse is stung, and the neighbour instantly puts on his war-paint, and vows the banishment of all bees and bee-keepers from his neighbourhood. Even during this month one of our members has been brought into court, charged with maintaining a nuisance. On this the Illinois law says:—"It is a public nuisance to throw a dead body in a public place or water, to corrupt a river or lake, &c.; to obstruct navigable waters; to obstruct highways, &c.; to make explosives within 20 rods of a building; to advertise on fences, &c.; to carry on any trade, employment or manufacture which, by offensive smells or otherwise, is offensive or dangerous to the health of individuals or of the public."

As bees are ordinarily kept, I am of the opinion that no action would lie under any of these different heads against a bee-keeper. But suppose a bee-keeper was so ignorant, or careless, or malicious as to drop honey about the apiary in a time of scarcity, or handle his bees in such a way as to cause robbing and continual stinging of people and animals passing by, it seems very probable that such a case could be abated under this last clause of the public nuisance law.

The next phase of the matter is private nuisance. This is where only a private individual is annoyed or injured, and not the general public. This is an entirely separate head under our laws. The attempt, as usually prosecuted, has been to show that bee-keeping, *ipso facto*, was a nuisance, and to be abated as a matter of course. In such cases the bee-keepers have been almost uniformly victorious, for the general rule is, a private nuisance is a matter of fact for the jury to decide. Bee-keeping of itself is not necessarily a nuisance, but may become such by an objectionable method of managing bees. So may keeping hogs, dogs, horses, cows, &c., be or become a nuisance by an objectionable or offensive manner of caring for them, or nearness to those who may be annoyed or injured by them.

The principal case upon which bee-keepers rely is entitled, "City of Arkadelphia, Arkansas, against Z. A. Clark," in the supreme court of Arkansas, June 22, 1889. The city of Arkadelphia passed an ordinance forbidding bee-keeping within the city limits, and arrested Mr. Clark for keeping bees, declared a nuisance by the ordinance. The supreme court said, among other things, "bees may become a nuisance in a city, but whether they are so or not is a question to be judicially determined in each case."

In some of the States laws have been passed prohibiting the spraying of fruit trees in bloom. The poison solution kills the bees working on the bloom, and experiments seem to prove that the enemy is not destroyed by spraying at that time. The interests of bee-keepers and fruit-growers are almost identical, and the time will come when their community of interest will be recognised by the laws of all our States. It must be borne in mind that all our States are independent of each other in making laws. If bee-keepers are to be protected, just laws must be made in all the States. The only bearing the Arkansas case has in Illinois is that courts generally respect the decisions of sister States about any matter not adjudicated there. But they have no binding force.

As to foul-brood laws, the same may be said—the good law they have in Wisconsin does not help us in Illinois. Bee-keepers must look after their own interests as jealously as other occupations guard theirs. If the thousands of bee-keepers in Illinois had been united on the question of our need of a foul-brood law, the much-needed law would now be on the statute-books.

One of the most important rights that bee-keepers insist on is to be paid for honey shipped to dealers and commission merchants in our large cities. Bee-keepers in common with

other farmers have tempted the city sharks by being such an easy prey. You must be methodical; have your bargain in writing; save the envelope covering your correspondence; look up the standing of a purchaser in Dun or Bradstreet; write a personal letter to a banker, enclosing a stamped envelope for reply, asking about the party. If you sell on commission, it is larceny not to account. If you sell to the dealer direct, he can say collections are bad, or go into bankruptcy. If by the correspondence and other evidence you can make out a fraud, one of the best ways to prosecute is for using the mails to defraud, and Uncle Sam is very prompt and severe in such cases; but that does not get your honey back, or the money for it. It seems as if the one precaution of asking a banker for the name of a reliable dealer would almost entirely prevent losses.

Bear well in mind that the laws protect best those who do not go to law. To illustrate: Big corporations pay big fees to lawyers to keep them out of trouble, out of court. Do not dash in recklessly, and then hire an expensive lawyer to get you out of trouble. Rather pay in advance for some good advice on any given doubtful point. Do not imagine that there is any such thing as law made easy for the people in one small volume. You might just as well expect bee-keeping made easy in six short lessons of one hour each.

One of the burning questions of the day is how to prevent the fraudulent sale of adulterated honey and imitations of honey. A pure-food commissioner and a corps of assistants to help enforce the law seems to work well in Ohio. Constant inspections of sales of honey and other foods, and analyses followed by prosecutions, are necessary to prevent fraud, and control in any degree the operations of the mixers. A pure-food law has just gone into effect in Illinois. A pure-food commissioner, an assistant, a chemist, and a number of inspectors have been appointed under the law, and efforts are being made to enforce the law. As far as I am informed no prosecutions for frauds in honey have been begun, but it has been only about two months since the law went into effect.

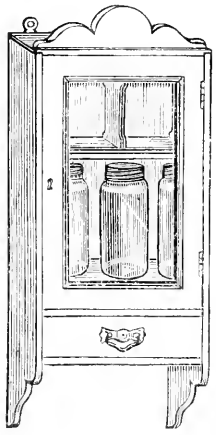
Bee-keepers should work as one man for good pure-food statutes in all the States. They are on the winning side, for all the people are for pure food by instinct. Every bee-keeper, as well as every citizen, can aid this good work by reporting to the proper authorities, with a sample purchased, every case of violation of the law. A well-known bee-keeper says that when a man deeds land he does not convey the honey in the flowers. Why? One reason may be that he cannot deliver it. It would seem to be elementary that you cannot sell anything you cannot deliver. This question opens up a big field in more ways than one. What are the rights of the first bee-keeper in any given locality? Has he any rights that the later arrival is bound to respect? This matter of overstocking any given locality is sure to be more and more interesting as people increase in numbers per square mile. Even now, in certain localities, specially favoured with extraordinary honey-flows, there is danger of overstocking. As far as I know, no law has been made touching this question. How would it do for counties to give a licence to the first comer, for a certain number of colonies in a certain territory, rights assignable?—*American Bee Journal.*

A NEW SHOW-CASE FOR HONEY.

A USEFUL NOVELTY.

Messrs. Abbott Bros., Southall, have just introduced the show-case illustrated below, the makers' description being as follows:—

"This case will hold six 1 lb. jars or sections of honey, or three of each. It is made to hang or stand, and can be fixed anywhere. Beekeepers, by fixing one of these in a suitable position, would quickly dispose of their surplus stock of honey. The honey is kept



entirely free from dust and damage and always retains its attractive appearance. The drawer provides a suitable space for labels and sundries.

"Fitted with lock and key as shown.

"Height, 24 in., width, 10 in., depth, 3½ in.

"It is made of kauri wood, and may be had stained any colour, varnished. It can also be enamelled any colour, or made of any special wood to order."

Bee Show to Come.

November 15, at the Town Hall, Ludlow, in connection with the sixth annual exhibition of the Chrysanthemum and Fruit Society. Two open classes for sixes. Schedules, &c., from Jno. Palmer, Hon. Sec., Ludlow. Entries close November 6.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

OCTOBER, 1900.

Rainfall, 2·66 in.
Heaviest fall, ·64 in., on 29th.
Rain fell on 18 days.
Below average, 1·19 in.
Maximum Temperature, 63°, on 7th.
Minimum Temperature, 31°, on 28th.
Minimum on Grass, 22°, on 28th.
Frosty Nights, 1.
Sunshine, 126·4 hrs.
Brightest Day, 12th, 9·5 hours.
Sunless Days, 4.
Below average, 0·9 hour.
Mean Maximum, 55·2°.
Mean Minimum, 41·7°.
Mean Temperature, 48·4°.
Above average, 1·2°.
Maximum Barometer, 30·58°, on 22nd.
Minimum Barometer, 29·44°, on 26th.

L. B. BIRKETT.

Queries and Replies.

[2546.] *Aspect for Hives. Cleaning Floorboards.*—1. I have not much room to increase my number of hives except under a wall where they would get no sun until the afternoon, would it be any use putting hives there? 2. Also is it necessary to clean floorboards of hives? I have not touched mine since they were put in new "W.B.C." hives last year, but am told that the brood-box should be taken off and floorboards cleaned every year.—ENQUIRER, *Wembley, November* 3.

REPLY.—1. In view of the fact that hives located on stands with a northern aspect have been known to do well, it is too much to say they will do badly in the position named, but the early sun is no doubt advantageous in causing the bees to begin work earlier than when on sunless stands. 2. It is a rule with all good bee-keepers to clean floorboards at least once a year, because the comb-cappings and other *débris* which accumulates on hive floors help to breed wax-moth and various objectionable pests if not cleaned away either in autumn or spring.

[2547.] *Shallow Frames Below Brood-Nests.*—I have been putting boxes of shallow frames under the brood-nest of a double hive for use next season, and will be glad if you, or some of your readers, will kindly tell me, through the B.B.J., if it is necessary to make another entrance below the shallow frames, or will the bees work down from the top bars of shallow frames just as well?—R. F. S., *Formby.*

REPLY.—The bees will extend their brood-nest as room is required by building in lower chamber without the need of a second entrance below. The plan you have followed is exactly that of Meadow's non-swarming hive, illustrated on page 43 of the "Guide Book."

[2548.] *Irish Heather-Honey; its Colour.*—Would any of your Irish readers kindly say if they find Irish heather honey in general as dark as Scotch heather honey, as I think the Irish heather honey not so dark as Scotch heather honey. I obtained honey from my bees in North Leitrim and North Fermanagh this year, which is darker than clover honey, but of a golden colour, not reddish brown, like Scotch heather honey. It is most delicious in flavour and the aroma is so fragrant it perfumes the air. It is, however, so thick as to make it hopeless trying to empty the combs by extracting. From what I read in the B.B.J. my honey would be too dark for one class and too light for the other class under the new "tinted-glass" test. I may mention the bee-hives are within a few hundred yards of the heather.—"ERIN," *Fermanagh.*

MAETERLINCK AND BEES.

As is well known to his intimate friends, much of Maeterlinck's spare time is passed amongst the bee-hives which occupy a prominent place in his garden. He is fond of watching and studying the ways of the bees, and rumour says that in a poetical and mystical way he has introduced the life of the bees in the new drama he is writing. The play is called "Double Jardin," and may be expected in the course of the winter.—*St. James's Gazette.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A BEGINNER (Boxmoor).—*Suspected Comb.*—Comb sent contains only good sealed honey and a few cells of pollen. We cannot imagine why foul brood should be suspected, the sample being nearly new comb and in the best of condition. If the bees are, as stated, now "tolerably strong," and "the other combs are not nearly so bad as that sent," the hive will, no doubt, be all right for wintering. The comb previously sent has probably been destroyed by the postal authorities owing to leakage or insecure packing, for it did not reach us; and the one dealt with above was hardly fit for carrying in mail-bags, being wet and sticky with running honey.

J. B. MURDOCK (Renfrewshire).—Comb sent contains no trace of brood at all; nothing but pollen gathered by the bees themselves.

Editorial, Notices, &c.

GROCERS' AND BAKERS' EXHIBITION.

NEWCASTLE SHOW.

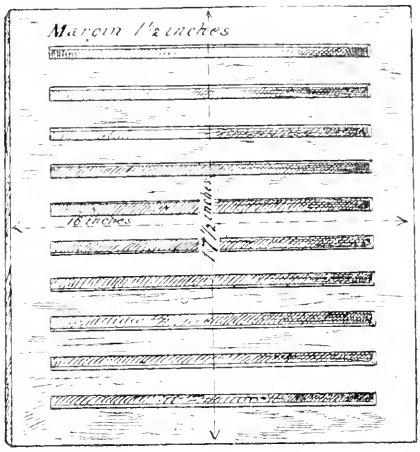
Reverting to the brief notice on page 435 last week, it may be said that although the honey section of this show was arranged for at short notice and no money prizes were offered, yet bee-keepers responded very well indeed under the circumstances, the result being that, if not very numerous, some first-class exhibits were put upon the stage. The class for heather honey in 1-lb. jars was well represented, and some excellent samples shown, the quality being so uniformly good as to give the judges considerable trouble in placing the awards. The same may be said for the light-coloured extracted honey, this class being an excellent one, all of first-class quality. Sections, too, were very good, but the difficulty of judging a class which includes sections of both heather and flower honey was realised, and it is hoped that next year there will be a separate class for heather-sections, so that a lot of rather awkward responsibility will be taken off the judges' shoulders. Only one honey trophy was staged, but this was an excellent one, composed of heather honey only, and did its owner, Mr. Waddell, of Wooler (Secretary of the Northern B.K.A.), great credit; for this he was justly awarded first prize and the B.B.K.A. Silver Medal.

Messrs. Kidd and Weighill, of Stocksfield, kindly undertook the work of judging, their awards throughout giving entire satisfaction. The honey-stand proved very attractive to visitors, and many inquiries were made throughout the show.—(*Communicated.*)

MR. RYMER'S ADAPTING-BOARD.

The method of working for heather honey, along with prevention of swarming, which has proved so successful in the hands of our correspondent, Mr. J. Rymer, is naturally arousing a considerable amount of interest among such of our readers as are located in heather districts. The details of the plan followed have been so fully given in recent issues of this journal (October 25 and November 1) that we merely add a line or two here in order to clear up the small amount of uncertainty which appears to exist in the minds of a few with regard to the slotted adapting-board devised by Mr. Rymer—and mentioned by him on page 431—and the method of using it.

The accompanying "cut" explains itself so far as regards construction and dimensions. It is made of $\frac{3}{8}$-in. board, and the width of slots, or passage-ways, are not of very great moment, seeing that they run *across, not parallel to*, the top bars of frames when in use, as some readers have supposed. The reasons for this should be plain to all, seeing that by so placing the board it reduces the risk of brace-combs to a minimum, and also forms the passage-ways for



winter which allow the bees to pass from comb to comb as stores are consumed. If the "slots" ran parallel to the top bars, the winter passage-ways would, of course, be cut off.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the *'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C."*

*** *In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4135.] *Sending Honey by Rail.*—Our friend Mr. Belderson (4132, page 439) has just cause for complaint, and if the honey was carefully packed I should consider he would be justified in entering a claim for compensation from the railway company. Had it been my case I should have sued the company in the County Court if they demurred to settling the matter equitably. Personally, I am glad to say my record of the season's

despatches are all satisfactory, customer after customer writing to say that the parcel arrived in "good," "first-rate," or "excellent" condition. This is encouraging, in view of the fact that I have sent honey in all directions to nearly all parts of England, from the Isle of Wight in the south to the Tweed in the north, also to many parts of Scotland, and in no single instance have I had complaint of any damage. The past volumes of the BEE JOURNAL will bear witness that I have not kept my system of packing honey for transit hidden away "under a bushel." On the contrary, whenever there has been any reference to breakages or damage I have trotted out my same old style of packing, *i.e.*, boxes or cases large enough to allow packing material on all sides with a good bold "don't jar" label (mine are 12 in. by 8 in. with letters in "red" $1\frac{3}{4}$ in. long), so that any railway porter can see at a glance the contents. Then I make it a rule never to pack more than half a gross of glazed sections in one case. This weighs about 1 cwt. (railway porters are not "Sandows") and the box has strong cord handles at each end. Smaller lots of, say, one or two dozen have the box strongly cross-corded; this gives a good and safe handle to carry by, while larger cases holding from three to six dozen have either wood or cord handles according to construction of cases, so that they can be handled easily, and I flatter myself that it is by careful packing in this way that my continual consignments travel satisfactorily. Small lots sent per *Pass. train* travel at half usual parcel rate, while large boxes go by ordinary "goods" rate.

I notice that Mr. J. T. Calvert gives an interesting report of his European tour in *Gleanings* of October 15, in which he mentions—while referring to his visit to the Confectioners' Exhibition at the Agricultural Hall in September last—that "there is always a good market in England for honey, but that the quality of much that he saw was below the average of American honey." As the quantity of bee-produce staged at the Confectioners' Exhibition was small in comparison with the amount shown at honey exhibitions held in America, no doubt Mr. C. felt justified in thinking that there would be an opening for our enterprising American cousins to send their surplus to this country. In a poor season like 1900 there would, perhaps, be a chance of disposing of a good quantity; but if we get a few successive seasons like that of 1899, I expect it would be as well to accept the price obtainable in America rather than risk the chance of damage in transit (I am referring to comb honey) and then make 10 to 12 cents per lb. on this side the Atlantic. Such were last year's prices, I hear.

No-bee-way Sections.—I also notice that Mr. Calvert refers to the fact that the no-bee-way section does not "take on" here. This is believed by him to be because some writers in the B.B.J. have disparaged them. I myself gave the sections a trial, but could not see any benefit to be derived from their use. They were no better filled than the ordinary two bee-way ones, and the bees did not take to them any earlier or fill them more quickly than to the sections fitted into racks already in use. These enabled anyone to give to give the new sections a trial, and the cost of "fences" (or slotted separators) was not a large item for a few racks to experiment with. But to adopt the "fences" in a large number of racks and discard the plain and slotted dividers, with no corresponding advantages, would have been too large an outlay for me personally, and so I could not recommend it to others. We have heard very little of the no-bee-way section this season, or the metal dividers our appliance manufacturers devised and invented for them. The principal objection I can see in the neatly-constructed "Root fence" is that the removal of propolis would be a tedious job. On the other hand, our metal dividers can be handled without fear of breakage, scraped clean and free of propolis with an old carving knife or boiled in water for its removal without damage. Surely this is an advantage worth considering? Again, granting that the no-bee-way section is filled equally well with the two-bee-way one, where does any advantage come in? We get 16 oz. of honey in the square slab of comb in each box, and should we glaze both in lace-paper for sale and place the two kinds of section side by side on a vendor's counter, I believe the wider section would be chosen by the purchaser if told to take which he preferred. The thinner section may appear fuller on its face, but the fact that it is $\frac{1}{2}$ in. *narrower* than the ordinary section would militate against its selection by a customer as the largest parcel for the money. On the show-bench also the no-bee-way section has not been a conspicuous success; in fact, it has not secured first honours when shown side by side with the two-bee-way. The narrow limit of paper edging prevents any unsealed cells being hidden out of sight; otherwise I should give a point here in favour of the no-bee-way, as the honey being so near to the glass would, if the edging was brought over the front half an inch or more, make it difficult for judges to detect the unsealed row of cells next the wood of sections. The other point in their favour is, in packing, the parcel of six or twelve when tied ready for packing would be shorter; this would give room for more packing material, and ensure, in some bee-keepers' hands, safer transit by rail.—WM. WOODLEY, *Beedon, Newbury.*

REMOVING BEES FROM HOUSE ROOFS.

A SUCCESSFUL TRANSFERRING.

[4136.] Early in the month of June last, Mr. J. H. Roper, Keighley, a bee-keeper of

some years standing, saw a good strong swarm issue from one of his hives, and, after the usual amount of gyrating in mid-air, the bees alighted on the roof of Mr. Roper's residence, only to disappear in a short time through the crevices between the slates. The bees were thus lost to sight for the time, but soon they were seen in good numbers busy carrying their tiny loads of pollen and honey into the bee-keeper's dwelling-house, without his being able to even see where the honey was being stored, to say nothing of any attempt to control or handle the bees. Some time afterwards, however, a neighbouring bee-keeper, Mr. J. Roe, of Oakworth, on passing by, after the usual friendly salute, inquired as to the welfare of their common hobby, "the bees." Then followed the story of the runaway swarm locating itself in the roof; this led to an arrangement for Mr. Roe to try and "get at" the bees and examine as to their position and condition. This was duly done, and they were found to be snugly ensconced between the spars immediately below the slates. In this space they had built six or seven shallow-combs from twelve to eighteen inches long, secured on the upper side to the slates. The bees seemed quite happy in their chosen retreat, but not being quite to their owner's mind to leave them in a place so unsuited to plans for securing surplus-honey and handling the bees, it was left in Mr. Roe's hands to get them out along with their combs, brood, and stores.

After one or two experimental trials, which failed, he adopted the old-fashioned form of honey-knives used in the days of the straw skep—viz., an iron rod flattened at one end and sharpened like a joiner's chisel. The other having about two inches of its end bent at right angles to form a sort of cutting hook. Thus armed he ascended, after first providing himself with a modern frame-hive, into which the bees and combs were to be transferred. After the usual "quieting" business had been gone through, the "hook end" of one implement was inserted in the first comb in reach, then with the sharp chisel end of the other the comb attachments, above and below, were severed. This done, the comb was gently withdrawn from its space, with the bees on it, and after being quietly tied into one of the frames, was placed in the frame-hive close at hand. The same operation was gone through with each comb until all were successfully transferred and in good condition. It was then found that a considerable quantity of bees still clung to the place where the removed combs had been suspended, but after a time they decided of themselves to rejoin their queen and comrades in the frame-hive left for their accommodation, and ere long not a bee was left outside their new dwelling.

When it is known by your bee-keeping readers how slight an error in the performance of such an operation as the above might result in a fiasco not soon to be forgotten, it will be admitted that the fact of the operator escaping practically scatheless was good testimony to the way the work was done; the whole ending in a manner highly satisfactory to both the bee-keepers whose names are mentioned above. —A Yorkshire Bee-keeper, *Keighley.*

PROPOSED B.K.A. FOR CUMBERLAND.

PROPOSED COUNTY ASSOCIATION.

[4137.] As the outcome of a conversation with two or three brother bee-keepers, and acting upon the "editorial" hint given at the bottom of page 195 of the B.B.J. for May 17, 1900, I am going to try and form a Beekeepers' Association for the County of Cumberland, and I avail myself of the large circulation of the B.B.J. to bring the matter before the bee-keepers of the county. Will those interested please send their names and addresses to me, as I wish to call a meeting at an early date?—John Vicars, *Gillbank, Boot, Cumberland, November* 6.

MY BEE-KEEPING IN 1900.

[4138.] I send a few particulars regarding my bee-work for the past season, thinking it may possess some little interest at this dull time of the year. The bees wintered well and came out strong in spring, but just when fruit-bloom (chiefly damsons with us) was at its best the weather was so cold and wet that work was stopped and no honey gathered from it. We got a little from the sycamores in May, but after that the bees seemed as if about starving.

In the following month of June I noticed one stock was doing nothing in the super, so I decided to join it to the next hive by "doubling." I examined both, and not being able to find either queen I set a queen-excluder between the two hives to keep the queens apart and put them one above the other. I also put excluder on top to keep queen out of super. As time went on the hive got crowded with bees, all of which worked from one entrance, which had to be opened full width (17 in.) to allow room for going in and out, and in the end there were five supers on. It was the strongest lot of bees I ever saw, but it was not till July 8 that they got a fair chance to work on the clover and alsike, of which we had seven acres a quarter of a mile away, which was one mass of bloom. All the surplus honey the bees got was gathered in ten days, and my big hive stored 50 lb. in that time. The hay crop was then cut, and the bees killed off the drones soon after.

During that hot July week or so my neighbour's bees did nothing but swarm. He had five swarms from four hives, but got very little honey.

By the way, I saw a novelty at Tibsholf

Flower Show on June 26. It was the forked limb of an oak tree with six perfect combs built underneath it by a swarm of bees. The combs measured 15 in. deep by 12 in. wide. There was a fair quantity of honey in the two outside combs, while the four middle ones were one mass of brood, just hatching out. Judging by its appearance, the bees had been there at least a month, and after several heavy thunderstorms experienced in the time the swarm had been there, I was surprised to see such good combs built out in the open. It was a great centre of attraction at the show, as we could see the young brood eating their way out of the cells. The combs on view were slung from the four corners of a case made on purpose for it, and the swarm had, I believe, flown five miles and settled in the tree, which was in a wood on Lady Carnarvon's estate at Loversal, near Mansfield, from whence it had been brought that morning. I expect some one had removed and hived the old bees, as there were only young ones about it.—TOM SLEIGHT, *Pilsby, Derbyshire, November* 5.

THE BASINGSTOKE BEE-CASE.

THE LAW ON BEE-KEEPING—HIGHER COURT DECISIONS.

[4139.] I am very glad to hear that through your kind efforts Mr. Longley has received the full amount of claim and costs which he had to pay to the plaintiff by reason of Judge Gye's decision.

I am exceedingly desirous on behalf of several of my friends who are interested in bee-keeping, and are not too much blessed with worldly goods, that there should be a decision of the High Court as to whether a bee-keeper, who uses all possible care to protect his neighbours from his bees, is responsible for damage caused by them. That is the first point; and secondly, I think some authoritative decision should be obtained on the question of identifying bees as belonging to a particular hive.

My suggestion is that in the event of another action being brought against a bee-keeper for damage alleged to have been caused by his bees, the general body of bee-keepers be asked to subscribe to brief an experienced counsel to contest the matter, so that those interested in bee-keeping may feel assured that every point will be fully dealt with that can be urged on the defendant's behalf.

The facts of each case must, of course, be carefully considered, but I feel that the present uncertainty into which bee-keepers are thrown as regards their liability for damage caused by bees, owing to the hopelessly contradictory views and decisions of County Court Judges, may cause harm to the progress of the bee-keeping industry, and a decision of the High Court would set many minds at rest. If the Courts hold that a bee-keeper *is* responsible, some system of insurance should be devised. I am sure if the matter was put before any well-known insurance company they would gladly issue policies for damage caused by bees—they would be only too glad to extend their business in this direction. But if, on the other hand, the Courts decided (1) that in the absence of negligence by the bee-keeper he is not responsible for damage caused by his bees, and (2) that owing to the impossibility of "ear-marking" a bee, or a swarm of bees, the bee-keeper cannot be held responsible, there would be, of course, no need of an insurance fund.

As I have told you, I am interested in this matter outside my profession, and I should esteem it a favour if you would let me know should another claim be put forward; and now that I have had an opportunity of going into previous decisions and studying the law upon the subject, I trust you will make use of me in answering questions or advising upon any legal points that may arise, and I will gladly give you my services gratis. I thank you very much for your courtesy towards me and for your kindness to Mr. Longley, and remain, yours &c., ARTHUR W. BARTLETT.

LATE FORAGE FOR BEES.

[4140.] Referring to the letter of C. A. Atchley to query in B.B.J. of October 18, (4108, page 411), as to name, &c., of melilotus, I should say from your correspondent's description that it was the same. I purchased the seed under the name of *Melilotus leucantha*, but before forwarding my letter (4100, page 400) to the B.B.J. I sent a spray of the blossom to Messrs. Carter and asked them to verify the same. This they did by stating that it was undoubtedly the product of seed which they list as *Melilotus officinalis L.* There may be a coloured variety, hence the "alba." In the *Practical Farmer* melilotus is described as "an annual or biennial, unless cut down before it is in full flower, when it will last three or four years." It may be, therefore (although I do not think so), that it was cut off by the mowing machine when so low as not to be distinguished from the white clover among which it was sown. This is the only way I can account for its "non-appearance in 1899." I enclose a spray with flowers and seeds, but it is not a very good specimen, as the flowers have now died off, but leaving a very large quantity of seeds.—WILL HAMPTON, *Richmond.*

SPECIMEN WAX-MOTHS.

[4141.] I have a female wax-moth, recently dead, and two that I take to be males. If any reader of the BEE JOURNAL would like these for preservation, I will forward them on receipt of addressed envelope. — WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

FUGITIVE PAPERS

ON ANCIENT BEE-BOOKS

2.—"The Feminine Monarchy" (1704).

[4142.] The first curious point to note regarding this book is that though there is a great deal in it about the queen bee as a ruler, the writer has apparently no suspicion that she lays eggs. According to him the workers are all "mother bees," and he takes pains to prove that they are females, and that the drones are males.

Let me quote something of what he says about the queen as the "monarch."

After speaking of the labour and industry of the bees, he says :—

"They work for all, they watch for all, they fight for all. Their Dwelling and Diet are common to all alike, they have a Common Care both of their Wealth and Young Ones, and all this under the Government of a single Monarch, of whom above all things, they take a singular Care, Respect, and Reverence ; obeying her as their Queen and Regent in all things, and in that, they nearly come up to the Minds of Men, nay many times excel them, touching their Obedience to their Prince ; who, if Well, their Minds are altogether one, Casting their eyes continually on her. They guard her Day and Night, and often bear her on their Backs, fighting in her Defence, but if she die, all is turned into Confusion, if she be taken, the whole Swarm is easily had, but if she be gone, they disperse themselves abroad, as disdaining to continue together without her, hating, as well to be without a Prince, as to be in Subjection to many at once, if by her Voice she bids them go, they swarm ; if being abroad she dislikes the Weather or Settling Place they quickly return to their Hive, guarding her all the Way, behind, and on every side, making an extraordinary Noise as if they spoke their Joy in the ready Obedience they pay her."

There then follows a good deal as to what happens if two swarms hive together, or if from other reasons "there be two Master Bees, for they will not be at quiet till they have agreed among themselves which shall remain and which shall be expelled."

Here we notice that Mr. Butler's observations were correct. He calls this "a perfect Monarchy, the most Natural and best Form of Government."

I now copy his description of the queen-bee, wondering whether her colouring has undergone any modification since his time. Many of us in hunting up a queen in a populous hive must have often wished she were brighter than she is :—

"As for the Queen-Bee, she is Known by her Largeness and curious Colour from the rest : her Back is of a bright brown, her Belly from the top of her Fangs to the tip of her Train is of a deep Gold Colour, and she is longer by one-third Part than any of the labouring Bees ; but she is not so big as a Drone, though somewhat longer ; her Head proportionable, but is more round than the small Bees, by reason her Fangs are shorter, her Tongue not half so long as theirs, as not being made to the same Use, for she never flies abroad to gather Honey, but is maintained in her State by the Labour of the rest ; her Wings are but small in Comparison to her Body, for they reach but to the middle of her Train, her Legs are yellow and proportionable, her Sting is shorter than that of any Labouring Bee, and in the Three joints of her Train she has Three Streaks of Golden Colour, as the other have of Silver Colour."—A. A. Head, *Alresford Rectory, Hants, November* 5.

[I have retained the curious number of capital letters, together with the punctuation of the original. A. A. H.]

Queries and Replies.

[2549.] *Re-Queening Hives at Swarming Time.*—Suppose a hive with a three-year-old queen sends out a swarm, and suppose the bee-keeper wishes to return the swarm, but in view of the age of the queen he wishes to return swarm without the old queen, so that one of the new queens about to be hatched may take her place. I imagine that while the swarm is out he must first go through the hive and remove all the queen-cells except one, which he judges the best one to leave. The questions I should like to ask are :—1. After having done this, is there any approved and certain method of returning the swarm without letting the queen enter? I have no doubt that the experienced bee-keeper would easily spot and catch the queen if the swarm were thrown out on a sheet in front of hive in the usual way ; but a beginner, I think, would be quite as likely to miss her. I ask, therefore (2), Would the following plan answer? Place a queen-excluder over the frames, then, while the "lift" is on, gently throw the swarm on the top of the zinc, and, if necessary, give a little smoke to drive the bees down, all the time keeping a sharp look-out for the queen, which as the bees gradually passed down, would be easier to find? I have noticed several cautions in recent numbers of the Journal, emphasising the importance of winter stores being *sealed*, which have made me feel a little uneasy. I was, unfortunately, so circumstanced this autumn that I was unable to feed up certain of my stocks before the first week in October. I then gave each stock about six pints of syrup in a rapid feeder, which in each case the bees took down in two nights. In view of the lateness the syrup was made rather stronger than is given in the recipe in "Guide Book," namely, 14 lb. sugar instead of 10 lb. for the given quantity of water (the amount of B Naphthol being proportionately increased). I should like to ask therefore :—(3) Whether,

in view of the abnormally warm weather we have had all through October, it is likely that the bees have sealed it over? (4) Are bees getting anything from outside sources now? I notice that some of my bees are still active, flying in and out in fair numbers. Even on the morning, November 5, although very dull (yet quite mild) at about nine o'clock quite a number of bees were flying. I note that it is the bees from hives which had been last fed up that seem to be most on the move, which leads me to hope that the "business" they are about is connected with the work of sealing their stores. 5. What is the precise reason why it is so important that stores should be sealed? Is it because evaporation from unsealed stores would seriously increase the moisture in the hive. 6. On page 16 of the "Guide Book" (16th Ed.) it says "to prevent the queen going up into the honey-chamber a piece of enamel cloth may be placed over the frames, leaving 1½ in. space at the sides for the bees to go up." From this I gather that the queen is tolerably certain to keep herself to the more central parts of the brood-nest; and in view of the difficulty there often is in inducing bees to pass up through excluder zinc, would it not be a good plan to use a sheet of the latter of such a size that there should be a space about 1½ in. all round, so that while the bees were gradually overcoming any objections they might have to the zinc they could still get up into the honey-chamber through the clear space all round?—G. S. N., *Wallington, Surrey, November* 5.

REPLY.—1. An experienced hand can, as you say, usually manage to capture the queen—after throwing out the swarm on a good-sized board in front of the entrance—as the bees run into the hive, and we have known many beginners do the same thing after once becoming used to the sight of a queen. Some have tried the "riddling-out" process by compelling the bees to pass through excluder zinc placed in front of entrance, but it does not work. 2. No; this is one of many similar plans tried, but it would certainly fail in practice if tried as proposed. 3. If the brood-chambers are fully occupied with bees and plenty of warm wrappings used, there is a chance of the food being sealed, but not by any means a certainty. 4. Yes; in some places ivy bloom has been yielding honey quite up to date on warm days. 5. Because unsealed food is apt to become soured, and perhaps start fermenting, owing to the humidity and condensation of moisture, which is inevitable inside hives during winter time; besides, clustering on unsealed stores must be very unwholesome for the bees. 6. The plan referred to is more or less effectual for the purpose, but cannot be entirely a reliable one in view of the laxity displayed by too many bee-keepers in not taking care that all combs in brood-nests are available for eggs. Thus queens search out and enter surplus-chambers in their eagerness to deposit eggs therein.

[2550.] *Using Old Comb-Foundation.*—I enclose samples of comb-foundation purchased in 1898-9 and 1900, and beg to ask:—1. How long comb-foundation packed carefully between paper in box and stored in a dry cupboard ought to keep fit for use? 2. Is it as good, and do bees take to it as readily the second or third season after it is made? 3. I notice that dealers offer to remould customers' foundation; is this of any use?—"BEESWAX," *Worcester, November* 7.

REPLY.—1. We have used foundation several years old; more than this we cannot say as regards its keeping properties. 2. It is generally found that bees take more readily to sections when filled with foundation made during the current season. There is, however, no need to discard that made previously if carefully preserved, especially if slightly warmed before using to remove the "floury" appearance it usually has when old. 3. We should say it is very unusual to send comb-foundation to the makers for the purpose of remelting.

[2551.] *Moving Bees—Candy for Winter Food.*—Would you be good enough to tell me—1. What would be the best time for moving three hives of bees about a quarter-mile from where they now stand? 2. As I am not sure that the bees had *quite* enough food to carry them through the winter, would you advise putting a cake of candy in each hive now, or waiting till about January? 3. What size cake should I give? I find the B.B.J. most helpful.—B. M. L., *Reading.*

REPLY.—1. The hives may be moved any time during winter after the bees have been confined to their hives for six or seven weeks through cold or bad weather, but it is advisable to make some temporary alteration in the outward appearance of the hive entrance to cause the bees to notice the change on making their first flight from the new location. 2. If the bees have sufficient food to last them till February, we should defer giving more food till then, because the candy is apt to become hard if it remains untouched by the bees for a few weeks. 3. A cake weighing 2 lb. is a useful size, but be sure the candy is soft and quite smooth in grain when made.

[2552.] *Utilising Honey for Candy-making.*—I have taken some honey from one of my hives which is not quite good enough for table use. I should like to use it in making candy for the bees. Will you kindly tell me in your next issue how this is done? Is the honey put to the sugar at first and boiled with it, or added to the sugar after it is boiled, and in what proportion?—W. D., *Bingley, November* 6.

REPLY.—Honey can only be used for making bee candy by mixing it with as much castor-sugar as will render the mass of paste-like consistency sufficiently stiff to prevent it running down among the bees when placed

overhead. We should advise keeping the honey for using as liquid food in spring, and making candy by the ordinary process of boiling sugar.

[2553.] *Disinfecting Combs of Surplus-Chambers.*—Can combed shallow-frames that have been upon foul-broody stocks be disinfected so as to be safe to use again next season?—SARUM, *November* 12.

REPLY.—Yes. If sprayed with soluble phenyle solution (No. 8), mentioned on page 167 of "Guide Book," they will be safe for using again. It is, of course, presupposed that the combs in question have had no brood in them, otherwise there would, no doubt, be risk of "spores" being present.

Echoes from the Hives.

The School House, Kinloch, Rannoch, November 3.—The weather for the last few days has been mild. To-day the bees in seven of my colonies were briskly carrying in pollen, one of them was as diligent and working as briskly as in the month of April or May. There was a continuous stream going in three, four, and five abreast. Where they were getting it was a mystery! Attempts are still being made to rob two of the hives, when this is persisted in I always fear queenlessness. Would you without examination infer that a colony had a queen if on the one hand continued efforts were made to rob it, but on the other the bees were defending themselves *vigorously* and carrying in pollen? I shall be greatly obliged if you will give me in JOURNAL your opinion. [Yes.—EDS.]—J. AITKEN.

A NEW ASPECT OF BEE-KEEPING.

THE CALL OF THE QUEEN BEE.

A reader has requested us to print the following article from a recent issue of the *Newcastle Journal*, as "possessing special interest for bee-keepers," and asks if we will say "how much of the information conveyed is founded on fact"? We have complied with the first request, because it is certainly interesting reading for any one, bee-keepers included. With regard to our correspondent's second request, however, truth compels us to say that, from the bee-keeper's point of view, it contains a modicum of fact pleasantly overlaid with a large amount of fiction.—[EDS.]:—

"She that speaketh," is the name given in the dreamy, poetical East to the bee, the little insect whose droning, drowsy note—surly, Shakespeare termed it—is just now so sweet an accompaniment to many a holiday ramble. The hum or drone is by many regarded as the only note associated with the bee, the only sound to which it gives utterance; but in this respect the many have error on their side. Occasionally the queen bee speaks on her own behalf, and curious is the effect upon her subjects when her royal voice is heard. Her vocabulary is not extensive, her utterance is not profound; but whenever she emits a sound which human observers describe as "peep, peep," the denizens of her hive literally bow their heads to her royal decree. Observers have from time to time remarked curious incidents connected with this call of the queen. A strange queen was on one occasion introduced into a hive which was already provided with a regal resident. At once there was a commotion among the ordinary inhabitants, and soon the new queen was set upon, and there seemed to be every prospect of her being torn to pieces or stung to death by the infuriated workers. Suddenly the little piping note of the queen's cry was heard, and every bee in the angry swarm at once became motionless, and, so the observer maintained, "hung their heads as though in shame" before her majesty. During the lull the stranger queen was removed from her position of danger, but on the following day was again introduced into the hive. An exact repetition of the scene of the previous day ensued, the workers buzzed, fuzzed, and threatened; the strange queen raised her royal note, and the angry swarm became motionless and shame-faced. Yet another observer reported how he had found two queens in one of his hives. It was about the time to swarm, and he visited the hive to ascertain whether the swarm had set out. He heard the "peep, peep" of a queen, and saw near the entrance an old queen passing to and fro with a number of workers surrounding her. From the interior of the hive there came the sounds of another queen calling, and, for a time, a great deal of confusion existed, until a swarm came forth. Instead of behaving in the customary way the swarm almost at once returned to the hive, where they continued for the remainder of the season, peaceful, hardworking, and content. Whether a revolution was enacted in the hive, and an old queen dethroned in favour of a younger and more beautiful lady, and executed or evicted, the observer unfortunately did not stop to inquire. He was satisfied when he found the swarming over and the bees working amicably with their usual allowance of one queen to the hive.

As the workers resent the appearance of an extra queen, so do they also mourn the disappearance of their rightful sovereign. Perhaps no more interesting or astonishing evidence of the capacity of these marvellous little creatures to communicate with one another and to act in a concerted and rational manner can be obtained than by experimenting upon them through their queens. Let a queen be removed from her hive without, if possible, disturbing any of the workers. Her absence presently becomes known to some of the workers, and at once there is excitement.

Running hither and thither they seek for her, and whenever a worker who knows of the loss meets with one who does not, the former rushes up to the latter and taps his antennæ upon those of the other, and immediately the second worker manifests all the excitement which characterised those who first discovered the loss. In turn the newly-warned workers range to and fro, spreading the news as they go, until the hive is in a commotion, and all work is suspended while the agitated workers spread abroad in search of her that is lost. Should the queen be kept away, the seekers will in time return, and will again communicate one with the other, after which one of the most astonishing of their "wise ways" will be put into practice. The eggs which the queen lays are, as may be generally known, removed by workers and placed in cells where, when they are hatched, they are fed on certain classes of food by their nurses, the diet depending upon the type of bee the community wishes to develop from the egg. As soon as the loss of the queen is realised to be complete, a deputation of the workers will visit the cells where the lately-hatched grubs are confined, and upon one of the youngsters being found who satisfies the ideals of the deputation, an order is apparently given to the nurse in charge, whereupon the cell is enlarged, and the class of food given to the grub changed from the worker portion to that of the royal race, and a new queen is reared to replace the one who has vanished. The experiment, however, is dangerous, for occasionally the workers will, on the return from their fruitless search, develop decided tendencies towards anarchy, civil war, and massacre. With every token of infuriated venom, they will, after a brief conclave, fall upon the drones and nurses, slaying them without mercy by stinging, after which they may turn upon one another, as though there were burning questions amongst them that divide their number into hostile factions. Furiously the war will rage, the pillage of the honey and the destroying of the grubs proceeding with the slaughter of bee by bee, until the interior of a once happy home is a wreck and a ruin, and the survivors of the community have gone off, Ishmael-like, to the desert air, to wander until death overtakes them, or they become associated with another hive. The possession of this distinct note by the queen bee, a note or sound which has so curious an effect upon the workers—who are also the guardians and fighting force of a hive—is not entirely an unmixed blessing. Through that startling faculty for imitation which Nature so frequently reveals in the lesser creatures of the world, this call, which subdues the subject workers into a state of homage for the sovereign, is also the means of suspending their hostility to a predatory enemy who would otherwise be easily overcome.

A moth, which by entomologists is named *Sphynx atropos*, but is known chiefly to the bees as an unmitigated robber of honeycomb, has at some time of its race-history heard the cry of the queen, noted its effect upon the workers, and set to work to acquire the note or sound with all its attendant advantages. To-day, therefore, a *Sphynx atropos*, or honey-stealer, will enter a hive swarming with hostile bees, with a *sang froid* only to be equalled by its sublime audacity. As soon as the bees realise that an intruder with dishonest intentions is amongst them, and they rise in their wrath to mete out summary jurisdiction upon him, the *Sphynx atropos* sounds the note of the queen bee. The inherent loyalty of workers compels immediate obedience to the sound, and with their anger arrested they wait with bowed heads—while the robber moth continues his way and his work, and despoils the honeycomb to his entire satisfaction. Sometimes a bee may enter the hive after the moth has subdued those around him, and while he is in the act of robbing the comb, and, with the swift act of outraged honesty, pounces upon the thieving impostor and slays him before he has time to utter the note that quells all anger in the bee breast. But more generally the moth is able to carry out his raid unmolested, and emerge from the hive uninjured—a circumstance which for many years was inexplicable to bee-keepers, until the assistance of the queen cry was demonstrated, and the use of it by the robber moth made clear. When the time has come for the honey to be taken the man who does not use the modern patent division hive overcomes the bee's power of resistance by vile smelling fumes and smokings. No one has yet set out to construct an artificial queen-bee call for use on this occasion. But with the capacity men have acquired in respect to the production and reproduction of sound, it should not be difficult to invent an instrument which would considerably facilitate the work of honey taking."

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of October, 1900, was £876.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

HONEY-VINEGAR—HOW TO MAKE A FIRST-CLASS ARTICLE.

BY MRS. A. J. BARBER.

Use about one pint of honey to the gallon of water (you will soon be able to tell by the taste when it is sweet enough). Put it into a keg or barrel with a good, tight head, and leave a hole not larger than 1 in. for ventilation. Keep it in a warm place, and put in some good vinegar or yeast to start it. After

it gets to working, draw off a pailful now and then and pour it back; or, if you have more than one keg, pour from one to another. It helps new vinegar to put old vinegar into it; but it spoils the keeping qualities of the old vinegar to put fresh vinegar into it.

We save all the washings from the extractor, tank, strainers, and cappings for vinegar. We wash the cappings by pouring warm water through them again and again, until about all the honey is out of them. They are then rinsed by pouring a pail or two of cold water through, when they are in fine shape for the wax-extractor. The water is all put into the vinegar-barrels. It took us two years to get really good vinegar from the start in new barrels. Now that we have our old sour barrels and good vinegar to start with, we can get good vinegar this season from last year's washings. For the last four years we have made from four to twelve barrels each year. We have twelve for market this year, and now at the last of July four new ones coming on for next year. We expect to make several more before the season closes. Each barrel should be cleaned every other year. Unless this is done the "mother" will begin to decay and break up, making the vinegar flat in taste and muddy in colour. The barrels that we started vinegar in this spring had the sweet water put in with the remnant of last year's saleable vinegar. Next spring the vinegar in them will be drawn off and put into clean barrels to keep until sold. When we get an order for a barrel of vinegar, we draw off again and put into a clean barrel. By this time there is but little "mother" forming, as the vinegar is ripe and will keep indefinitely.

We have a house specially for our vinegar. It is a double-wall frame one, with a 10-in. space between walls, packed with sawdust. The ceiling is covered with several inches of sawdust, and the vinegar keeps nicely all winter. We put the barrels into the house in November, and take them out in April. They stand in the sun all summer.

When we take them out we find which barrel has the best vinegar. The vinegar is drawn off and put into a clean barrel. The head is then taken out of the one just emptied, and it is well scrubbed with water and a stiff broom. When clean it is reheaded, and the contents of the next best barrel drawn off and put into it. Thus the barrels are cleaned and the vinegar put in shape for market. We have a long, low bench or platform for the barrels, where they stand in two rows. The first barrel drawn off is placed at the east end of the south row. That is No. 1, as it is the first to be ready to sell from. The next barrel drawn off, being next best, is placed next to No. 1 on the row, and is No. 2. So we go on till we get to No. 12. When we sell a few gallons from No. 1 we draw from No. 2, and replenish it; draw from No. 3 and fill up No. 2; from No. 4 and fill No. 3, until we have gone through and left the empty place in No. 12. When No. 12 is empty, or nearly so, we fill it with sweetened water again, and it makes No. 1 for next year. Nothing helps so much to make vinegar clear and sparkling and sharp as the working from one barrel to another. It seems to act like kneading on dough. It sounds, to tell of it, like a lot of work; but, really, when one has good faucets in all the barrels it does not take long to run a few pailfuls from one to another of the whole lot. I try to get at mine once a month, and oftener when we sell a large quantity.

Our neighbours come to get honey-vinegar in preference to the cider-vinegar at the stores. We have kept some in the stores, but have never had enough to supply them yet. We use all kinds of refuse or waste honey, such as broken combs and dark, unfinished sections, and this year we had about 300 lb. of dark, strong honey that came from weeds before alfalfa bloom. That will go into the vinegar next year if I do not need it to feed my bees in the spring.

I believe the secret of success in the bee business lies in looking after every part of the business, and saving everything produced; and what cannot be marketed as first-class honey should be turned into first-class vinegar.

I have been asked if honey-vinegar will keep pickles. I have put up quantities of them in the last three years, and have never lost any, but have sold a great many, both of whole and mixed pickles. We are using mixed pickles now that were put up last August, and they are as firm and brittle as they ever were. If the vinegar is old enough, and has been properly handled, it is of the very best quality for pickling, or anything else that vinegar is used for.—*Gleanings* (American).

"NOTES OF TRAVEL IN EUROPE."

FROM AN AMERICAN POINT OF VIEW.

Mr. J. T. Calvert, of the A.I. Root Company, who recently spent some weeks in this country and on the Continent of Europe, is recording some impressions of what he saw during his trip in the columns of *Gleanings*. We purpose making a few extracts from such of Mr. Calvert's "Notes" as possess interest for British bee-keepers who are B.J. readers.

After describing a pleasant voyage across the Atlantic, he says:—

"We touched the dock at Liverpool on Thursday, July 26, at 5 p.m. The next hour was consumed in removing baggage, and there must have been at least 200 men employed at this on vessel and on shore. At six the passengers began to land, and at seven we had passed our baggage through the customs and were aboard the special train which was to carry us to London. The trip required

four hours' time, running at the rate of at least fifty miles an hour, and not more than five stops on the way. It was not dark till nine o'clock, so we had a good opportunity to see the country through which we passed. I was struck with the extreme neatness of everything. The streets and roads were as clean as though they had been swept. The embankments were covered with green sod. The buildings were almost universally of brick. I have not yet seen a wooden building. Many, of course, are of stone. Neatly trimmed hedgerows divide the fields and farms, and line the roads and railways."

Arrived in London, our friend gives his first impression of the people, which was apparently favourable, for he says :—

"I am particularly struck with the marked civility and gentlemanly bearing of the people. You may accost any one on the street, and always receive a courteous and civil answer. They appear not to begrudge the time taken to be civil. Indeed, they will often volunteer just the information needed at the opportune time. In the common exchanges of every-day life the deferential "Thank you, sir," is heard on every hand, even between servants and porters."

In referring to bee-keepers met with on his journeyings, mention is made of one well known to B.J. readers :—

"I spent a day in the South of England at Ripple Court, near Dover, with F. W. L. Sladen, who is an enthusiastic bee-keeper, and collector of specimens of bees of all species and varieties, and he has indeed a collection to be proud of—humble-bees (or, as they are sometimes called, bumble-bees) of many kinds and colourings and sizes ; *Apis dorsata*, of several varieties ; bees from all countries on the globe. I did not learn how many different specimens he had ; but I should judge, from the number of specimen-cases we examined and the number displayed in each, that there cannot be less than 500 different specimens, with very few duplicates."

"I find that the English bee-keeper prepares his honey for market much more elaborately than we do in America. Extracted honey is usually put into pound bottles and neatly labelled with the name of the producer ; and if he is a member of an association the association label is also added, which does not guarantee the purity of the honey, but the character and good standing of the producer. In this form extracted honey brings nearly the same price as comb, and it is growing in favour. Comb honey is invariably put into cartons of some kind, and they are usually a much more elaborate kind than those common with us. The standards set for the shows require glass both sides, with a lace-paper fringe of a certain depth all round the edge of the glass, the four sides being of pasteboard or tin. Much is also put up in ordinary pasteboard boxes, neatly labelled."

(To be continued.)

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

M. Beamish (co. Cork).—*Planting Flowers for Bees.*—1. There are so many useful gardening papers, weekly and monthly, that we hardly know which to recommend above others. A seedsman would be better able to answer your query than we. 2. We never advise going to expense in planting specially for bees. A few early-blooming flowers are useful in spring for yielding pollen to promote early breeding and rouse the bees into activity, but for a honey-crop the bee-keeper must depend entirely upon the natural forage of the fields, orchards, and other sources of supply that grow in his district. To regularly sow or plant flowers for yielding surplus-honey to the bee-farmer has never been found to pay in this country. He must get his honey crop without planting for it.

R. T. T. (Thirsk).—*Forming Bee-Associations.*—There are no "printed particulars as to the formation of an association" of which we have any knowledge. So far, however, as regards "procedure in making a start," the main point is to get together a few active, practical men to form a working committee, and, most important of all, a good business man as secretary. It is also very advantageous to have a leading resident of the district, if possible, as chairman. We hope to be pardoned for referring to the Rev. Sidney Smith, Wheldrake Rectory, York, as being not only an able, practical bee-keeper himself, but an enthusiastic advocate of bee-keeping in the county, and as such able to give good advice on forming an association for your district.

J. R. (Wales).—*Source of Honey.*—The honey sent is almost wholly from heather. It is a nice sample of mild-flavoured heather honey.

Ballymenoch (Belfast).—*Honey Sample.*—The sample sent has neither the consistency nor flavour of honey. We should call it a mixture of fermenting honey and water, got by the bees from *somewhere* ; and we do not wonder at it "running out with the movement of the sections," as stated.

R. H. (Yorks).—*Suspected Combs.*—1. Though all traces of brood are dried up in comb, we have no doubt as to its being affected with foul brood. Therefore, as the bees are now weak in numbers, we advise immediate destruction of the stock, together with combs and frames. This will leave ample time to disinfect the hive before using again. 2. Photos of individual honey-exhibits at local shows hardly possess sufficient general interest for reproducing in our pages.

Suspected Combs.

W. A. B. (Boxmoor).—Comb contains only fresh-gathered pollen.

W. M. G. (Leicester).—Comb is affected with foul brood in very pronounced form.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Thursday, the 15th inst., Mr. Henry Jonas in the chair. There were also present Major Fair, Messrs. R. T. Andrews, W. Broughton Carr, J. M. Hooker, W. F. Reid, E. D. Till, E. Walker, T. I. Weston, and the Secretary. Letters explaining enforced absence were received from Mr. W. H. Harris (Vice-Chairman), Hon. and Rev. Henry Bligh, Miss Gayton, Messrs. H. W. Brice, C. N. White, and F. B. White.

The minutes of the previous meeting were read and confirmed.

Mr. H. Jonas presented the Report of the Finance Committee, showing a bank balance of £32 9s. 5d. The recommendations of the Committee in regard to payments were approved.

Reports of Examiners of Candidates for Expert Certificates at Swanley and Worcester were presented, and in accordance with the recommendations it was resolved to grant "passes" to sixteen and three candidates respectively.

Mr. Till read a letter received from Mr. J. Colam, of the R.S.P.C.A., acknowledging with thanks the receipt of a small present of honey made to him by the Association.

The Council proceeded to the consideration of the proposed schedule of prizes to be offered for honey and bee-appliances at the Cardiff Show in June, 1901. The schedule, as drawn up, will be submitted to the Royal Agricultural Society of England for approval and afterwards published.

The Secretary stated that nine candidates had entered for the Second Class Examination, November 16 and 17, and presented a list of the supervisors nominated by the various County Associations interested. The appointments were duly confirmed.

FAIR FARMERESSES.

We have been asked to print the following from the London *Daily Express* as possessing interest for "ladies who are disposed towards the cultivation of bees" :—

"In connection with its course of lectures in agriculture, horticulture, and kindred subjects, the Hampshire County Council has for some time provided a 'travelling school' to accompany its lecturers from place to place for demonstration purposes. But the lectures were so thoroughly appreciated that it was felt that much more might be done to increase the practical value of the work.

"A farm of sixty-one acres was taken at Old Basing, including arable land, dry pasture, and water meadows. The farm buildings have been adapted to modern requirements, a new dairy has been built and equipped with the newest dairy [illegible] and a comfortable house taken as residence for [illegible]arters.

"Here pupils are received at the most moderate fees—those resident under the County Council's jurisdiction at 10s. a week for board and tuition ; outsiders at £1 a week. With the kindest and most homelike care of Mrs. Green, the matron, is coupled the practical, common-sense teaching and direction of the staff, under whom it is no mere question of listening to scientific lectures, but of actually and practically doing the work themselves.

"The summer course is, perhaps, the more popular of the two with the lady-students, as then they can do more with bee-keeping, poultry rearing, fruit and flower growing. But the winter course is also open to them, and includes, besides the actual farming and dairy work—which goes on, of course, all the year round — laundry, cookery, needlework, and cutting-out classes.

"During July and August sixteen girl students began the day's work at '6 a.m. with milking, separating, calf and poultry feeding,' and worked on, save for a short interval after dinner, at a well-organised programme of duties until 'supper at 8.30' closed the work of the day ; after which the lounge chairs came out on to the lawn, while one or two of the students kept the music going in the sitting-room close by, and made the summer evenings enjoyable.

"'Is bee-keeping profitable?' 'Yes, certainly ; it ought to be very profitable, if taken conjointly with some other branch, preferably poultry rearing. It is not so good taken alone, for it takes almost as much land and labour as it does to manage the two ! The same with flower growing—it gives a great increase to the returns if taken with fruit growing, but to be made profitable by itself it wants working with a large capital on a large scale.'

"'Come and see my jam cupboards,' said the matron ; 'the girls and I have made 650 lb. of jam from our own fruit, not to speak of hundreds of bottles of fruits preserved whole for the winter cooking.'

"Mr. Nixon, the manager and head teacher, is a North countryman, with practical experience both as schoolmaster and farmer."

HOW TO SELL HONEY.

By S. A. Niver.

Read at the Bee-keepers' Convention held at Chicago, August, 1900.

When our genial secretary propounded to me the conundrum, "How to Sell Honey," for a solution to be given to the National Bee-keepers' Association, I said to Editor York : "That's too easy ; just offer your customer a *better bargain* than your neighbour does, either in quality or price, and as a matter of course you will sell your honey, and your neighbour can—well, perhaps, *eat* his."

Thinking the subject over in the light of

giving directions "How to Sell Honey," to a convention of bee-keepers, it would appear to be necessary to give that neighbour a hint how to proceed after Dr. Mason had filled his market full "first" him; and here the subject began to look complicated, so, as is customary, I put it off until a more convenient season.

A short time ago W. L. Coggshall asked me if I was going to attend the Chicago convention of the National Bee-keepers' Association. I replied, "No; but I have a conundrum for you. Can *you* tell 'How to Sell Honey?'"

"I can't; haven't any to sell," was his reply. That was like the old recipe for cooking hare —"First catch your hare."

Then I looked up the authorities—the writings of the veterans—and found all harping on the same string—sell in your home-market after getting the crop in the most attractive condition possible. The result of this line of advice is familiar to all. Polished and sand-papered sections, nice shipping-cases, fancy labels and cartons, bleached combs, and extra-filled sections ("stuffed prophets," Morton used to call them), obtained by crowding bees for room in the surplus department, at the expense of shortened crops, much extra time and labour, extra annoyance from swarming, and crowding out the queen in the brood-chamber.

After all this, when we come to market with our honey, we find our neighbour has been busy at precisely the same thing, and has beaten us by a day, or has sold some inferior honey at a low price, which is about as bad.

This line of advice, carefully followed by all, will result in a greater consumption of honey, without doubt, for nice-looking, clean-looking goods sell much more rapidly; but it makes a comb-honey producer work on Dr. Miller's eight-hour system—eight hours in the forenoon and eight hours in the afternoon—and every year get less for the crop than he did the year before, other things being equal.

David Harum's golden rule, "Do to the other feller just what he's tryin' to do to you, but *du it fust*," pithily sums up the anti-moral, anti-Christian, anti-common-sense methods now in vogue, but which will endure until displaced by something better.

Shipping honey to the city commission merchant is another method which has so many drawbacks, that the veterans give about the same advice in regard to it that *Punch* gave to those about to be married—"*Don't.*" And in a stage whisper let me say that the commission man has troubles of his own, which Mr. Burnett may tell us more about before this meeting is over.

Six years ago, a number of honey-producers of Groton, New York, believing it better to combine than to compete, pooled their interests, and sent the writer of this article, "armed and equipped as the law directs," with sample case and power of attorney, to the grocers in cities reached by our one line of railroad, to sell and collect for all, and divide the expenses in proportion to amount sold for each member. This arrangement worked so satisfactorily, that it has been followed each year since, with growing acquaintance and mutual dependence between our customers and ourselves. True, there are some drawbacks to this method, such as bad debts, much book-keeping, owing to large number of small sales, and length of time it takes to get collections in and distributed, but the net results in price and security have, on the whole, been very satisfactory.

Fellow honey-producers, is not the key to Dr. Mason's conundrum to be found in that experiment of ours, with its basic principle of combination as opposed to competition? An adoption of some such general method would put the honey-producer abreast of the times, in harmony with the spirit of the age.

The trusts have taught us that success must be looked for chiefly by eliminating unnecessary expenses and losses. Our old cut-throat system can only change for the worse. There can be no patching or doctoring that will effectually improve it.

At the outset we are confronted with the utter impossibility of combining the interests of such a vast number of individuals, scattered over such vast areas, and the great variety in quality, colour, flavour, and demand for just the particular kind the customer has been educated to prefer; but is it not within the range of the possible, for the buckwheat honey-producers of New York State, for instance, to organise and give the method a trial? In numbers, area of production, and area of effective markets there are presented no difficulties which rightfully should discourage as energetic and intelligent a body of men as the New York State buckwheaters are known to be in a matter so vitally interesting. With a thorough knowledge of the amount to sell, and a common agreement as to a minimum price to be accepted of anybody except the representative of the combination, who will take all unsold honey at a fixed date and dispose of it to the best advantage possible, the York State buckwheater would have a chance to be less conspicuous by his absence at the next meeting of the National Bee-keepers' Association.

Mr. Chairman, it is said that "a *word* to the wise is sufficient," and I hope this crude outline of a plan may prove to be the right "word," which will reach the ears of the "wise," and result in a better condition of affairs. If the secretary had only worded his conundrum "How *not* to sell honey," I could have described the prevailing methods in detail, and felt that my answer had been nearly correct.

In conclusion, I hope that the convention will turn the search-light on this subject, and evolve a practical plan, which shall benefit the apiarist in this all-important branch of his beloved pursuit.—*American Bee Journal.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NON-SWARMING HIVES.

OBJECTIONS TO "SWARM-PREVENTING."

[4143.] Referring to the letter of Mr. Kidd (4125, page 436), may I be allowed to say, in reply, that the three objections to my plan as there given are not nearly so serious as your correspondent seems to think. In the first place, I incur very little expense in rearing queens, and the little trouble involved in introducing is not worth thinking about, while the risk of mishap to queens in the operation of renewing is nil, my system in that respect being both safe and certain. Secondly, there is no more additional labour in adding an extra brood-chamber than in hiving a swarm and running it into a new hive, and the risk of your swarm taking wing and bidding you "good-bye" is done away with.

The "example" of dealing with a swarm on June 1, given by Mr. Kidd to illustrate the superiority of his method over mine, is not convincing. It would add far greater expense than I should care to have, seeing that he would require the same amount of foundation as in my plan, and in addition must provide another hive; whereas I require no hives for prospective swarms.

The cost of foundation cannot be charged to the hive first receiving it. These combs when taken off the hive are really worth more than when put on. In fact, it needs only a little careful study to make it plain that the additional income will very greatly compensate for the small outlay.—J. RYMER, *Levisham, November* 15.

LATE FORAGE FOR BEES.

MELILOTUS ALBA, OR SWEET CLOVER.

[4144.] Sweet clover, or Bokhara clover as it is variously named in the United States, is a biennial. When grown from seed in the spring, it makes a fine growth for hay or green feed for cattle in the late summer; but it does not flower in its first season after sowing. The second year growth starts earlier than Alfalfa (Lucerne), so there is a good "bite" for stock before the latter shows. In fields where both are growing these young plants look very much alike. The Melilotus, however, will endure as much drought as Alfalfa, while it will do well on a much wetter soil than the latter. It cares nothing for the hard winters of the Western United States. I believe it was introduced into the States from Tartary as a dry weather forage-plant for stock but was not taken kindly to by the ranchmen, and has since spread as a weed all over the West, from Michigan to Colorado, during the past twenty-eight years. This result comes about because it sprouts in spite of the small attempts of the careless, slovenly farmer, and grows wild along the sides of roads, railways, and irrigation ditches. It also spreads over neglected corners and commons; apparently not caring how hard or poor the soil is, where the climate suits, for I have seen it growing as high as 5 ft. when in flower. The plant bears a great number of insignificant looking bunches of little white flowers which give out a strong smell of honey, quite perceptible some distance away.

The honey from it received the most votes in a ballot taken by the bee-keepers at the honey exhibition at Omaha three years ago on the point of which honey was the best. Personally, I consider it the best variety of honey I have yet met. There is a yellow variety of this plant—the common one in some places. It does not grow quite so rank and tall as that referred to above, but the flowers are somewhat more numerous, and reports state that it is as good or better as a honey plant.

To those who wish to sow the seed I might mention that bee-keepers who have raised it as a crop say that it will not grow in a loose seed-bed, but if the ground has been cultivated it requires to be very heavily rolled for the seed to come up. I have seen the plants carrying the seed pods in the winter shed them on the snow and after on the hard prairie sod that had never seen a plough; yet the seed came up thickly in the spring. It grows particularly well on the banks of irrigation ditches and around the margins of ponds and lakes; yet it thrives well with very little moisture. The places most suitable for the bee-keepers in this country to try it are such districts as where the ox-eye daisy succeeds and grows freely, such as the side of deserted quarries, railroad cuttings where the sides are too steep for the growth of grass. If three or four plants find footing in such a place, I am sure that in a few years the plant will take full possession of it, and grow wild. It would be quite worth any bee-keeper's while to have a little of the seed in his pocket and drop a few seeds in such places during the winter and spring. It is too rank and wild a grower to set in any garden. In fact, such handfuls of any plant as are grown in that way are imperceptible in their effect on the bees. I do

not think less than a quarter of an acre of any plant will show an appreciable effect on the honey harvest.—WALTER A. VARIAN, *Dublin, November* 19.

BEE-KEEPERS' DEFENCE FUND.

[4145.] I was much interested in Mr. A. W. Bartlett's letter in the current issue of the BEE JOURNAL, and his suggestion that, in the event of a second action for damages against a bee-keeper, the general body of apiarists be appealed to for funds to enable the case to be fought if desirable.

Would it not, however, be advisable to make the appeal in advance and so be prepared at a moment's notice? I am sure that many bee-keepers would be pleased to contribute their guineas or sixpences, all according to their means, for such a purpose. I am equally sure that many would be pleased to contribute so soon as a fund, under your control, were opened, and that others—those who were not inclined to subscribe in advance—would be equally willing to guarantee a certain sum towards the defence, should a register be kept for the purpose of registering their offers.—G. J. G. J., *South Norwood, November* 19.

DOUBLING HIVES.

MY EXPERIENCE OF "DOUBLING" AND "ROBBING."

[4146.] Referring again to the experiment in "doubling" mentioned in my letter on page 447, I would like to add the following further particulars:—When all the honey had been taken off I again divided the doubled hive, making of it once more two stocks, but on examining the frames the top hive was found all honey and no brood, while the bottom one was all brood and no honey. I therefore had to interchange half the frames of both hives in order to equalise the contents. When this was done I naturally thought that the top hive being found broodless must of course have been queenless, and in order to remedy this state of things I sent to a well-known queen-breeder for a fertile queen and on arrival of same I introduced her by his fasting method. Two days later, however, the queen so introduced was found dead outside the hive; and this led me to blame myself for too hastily concluding as to supposed queenlessness, but in order to make quite sure I hunted the combs over to find the queen. This I failed to do, so got the help of my bee-keeping friend, who soon "spotted" her on a comb, and as she is only a year old I decided to keep her at the head of the colony where found, and replace the old queen in lower hive by purchasing a young one. This was done successfully this time by the same "fasting method," and all has gone on well, for a month later I found some nice hatching brood in the combs. I then fed the bees, and by the end of September had packed them down for winter.

I shall not soon forget a "hum" I had among the bees on August 17 last owing to my carelessness. It was a very warm day, and, after examining one hive to see its condition, about two p.m. in the afternoon, I inserted a wet comb for the bees to clean up; when the bees of the other hives started robbing the one I had been operating on, and—well, I do not want to see any more "robbing" after that experience, I can tell you! At last I closed the entrance and put some sacking over the hive, then got the watering can and gave them a ducking, but for over two hours the upset continued. I am glad to say, however, the bees kept in good temper and no one was stung. Indeed, I may say that although my bees are within five yards of neighbours' houses, no one has been stung by them but myself all through the past year. But what could have caused the bees to start robbing?

I might also ask another question, viz.: All through the past month of October my bees have been coming home on fine days covered with a white powder, just as if they had been dipped in a bag of flour. Can you tell me where they got it from?

In conclusion, let me say I have visited a lot of bee-keepers round this district, and few of them seem to have got anything from their bees but swarms. So that I may consider myself fortunate in securing 65 lb. of surplus from my "doubled hive," even if the others gave me nothing.—TOM SLEIGHT, *Pilsby, Derbyshire.*

[The "robbing" complained of was started by your failing to carry out what should be an invariable rule, viz., never to give bees wet combs for "clearing up" until dusk, or when the bees have entirely ceased work for the day. The "white powder" mentioned is pollen gathered from the Canadian or giant balsam, while the appearance of the bees (often described as making them "look like dusty millers") is got by the bees entering the pouch-shaped blossoms and literally rolling in the pollen, so plentiful therein.—EDS.]

QUEEN FLYING IN NOVEMBER.

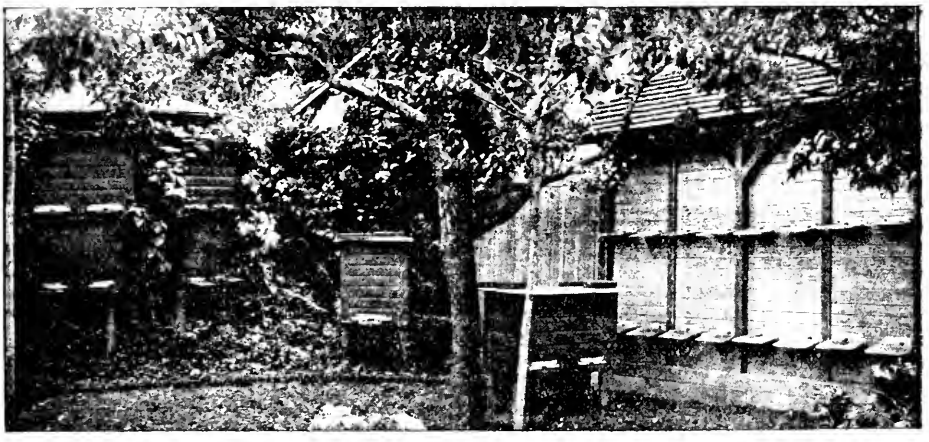
[4147.] November 11 was a very bright day, and the bees were flying freely at 1 p.m. I saw the queen from a straw skep (which is in a bee-house) come out on to the alighting board, and after running about for a few seconds amongst about a score bees also out on the board, she took wing and flew off. She alighted upon the board again very shortly afterwards and re-entered the hive. I watched for about a quarter of an hour, but the queen did not again appear. The queen seemed to be of the medium size for a fertile queen. The hive had been in no way disturbed lately, and has both ordinary stores and soft candy, and the occurrence seems unusual. — WEYSIDE, *Surrey, November* 16.

(*Correspondence continued on page* 460.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our bee-garden picture this week carries us to Switzerland, and gives us an idea of the conditions under which bees are kept in that part of the world. Pastor Sträuli (as he always signs himself) has been a reader of our journals for many years, and is known among his neighbours on the Continent as a bee-keeper who, to a great extent, follows the methods of management in vogue in this country. Indeed, so favourably is he impressed with our system that he read a very interesting paper, entitled "My Experience with English Methods," at a meeting of the Swiss Bee keepers' Association (of which he is District President). A translation by himself of this paper appeared in our monthly, the *Record*, last year, and in recounting his successful honey harvests he says (on page 78 of *Record* for May, 1899), "I owe this good result largely to the English methods of managing bees."



THE REV. R. STRÄULI'S APIARY, SCHERZINGEN, SWITZERLAND.

It will be seen that Pastor Sträuli's apiary is modelled on the "bee-house" plan common on the Continent; indeed, his hive (illustrated in *Record*) and methods of manipulation are not suitable to outside stands for the hives. In response to our request for some particulars regarding the apiary shown, our rev. friend writes:—

"On the left side of the photo there is seen part of a former garden-pavilion in which I first began my bee-keeping. In the lower tier of this there are improved 'Berlepsch' hives, of which I have eighteen, the upper tier containing only what are called 'book-hives' (known as Alberti hives) with fixed covers, of which I possess seven.

"On the right of the photo is seen my new bee-house, which is entirely occupied with Dadant-Alberti hives, in which I have thirty-three colonies of bees. One stock stands on a scale (for the purpose of recording the daily income of honey), but it is not visible in photo. I have also several other hives which could not be got into the picture. At the end of the new bee-house is seen a double hive, in which I am making a trial of my new system of using the 'Dadant-Blatt' book-hive with movable supers in the form of drawers. The single hive on the left of the one just mentioned is another experimental book-hive, but without movable supers. The first of these hives I had in use are those in the old garden-house before mentioned."

Mr. Sträuli has himself designed a hive in which the plan is followed of allowing the brood-frames to rest on thin bars attached to, but raised up ½ in. from, the floorboard. By this arrangement the frames can be removed from the hive while supers are on. These supers are filled with shallow frames, and, when referring to the use of these, he says:—"In my hive I should explain that only the small honey-frames have projecting ends (English bee-keepers call them 'lugs'), as in the British Standard frame. And the frames are lifted up from the opened hive at top, when manipulating, by taking hold of these lugs, just as they do in England. On the other hand, the brood-frames in my hive are withdrawn endways towards you from rear of the hive, the back wall of which comes out when wanted.

"The frames of brood-chamber are raised up from floorboard, the bottom bars resting on a cross-piece fixed on three ½-in. strips of wood, which extend from front to back of hive. When examining brood-frames, the honey-chamber, which is hinged to the hive-front, is capable of being raised up from the rear to allow of manipulating the frames without actual removal. When the honey-chamber is in the sloping position needed for

lifting out the brood-frames, it is held so by means of a hooked wire. The queen-excluder (which is in a wood frame), being secured to the super, lifts up along with it, after it has been loosened somewhat, and in this position I can do what I want in brood-chamber without any difficulty."

CORRESPONDENCE.

(*Continued from page* 458.)

A BEE-KEEPER AT THE FRONT.

NEWS OF MR. WILFRID GUTCH.

[4148.] Readers of the BRITISH BEE JOURNAL and those present at the Jermyn-street Conversazione in October last will remember the welcome communication made by Mr. Till who had, only a few days before, received from Mrs. Gutch the glad intelligence of the safety of her son. It was then hoped that there was a prospect of his speedy return, to receive the thanks of his friends for his gallant service in the field, for already his commanding officer was desirous that Lord Roberts should grant him a commission in the Regular Army. Later word from South Africa, however, leads us to feel that Mr. Gutch's services are too much in request to admit of his speedy home-coming. The bravery of our young Yorkshire barrister-bee-keeper is generally recognised, but especially by his bee-keeping friends at Eynsford, which village for many seasons he has made his summer retreat, and where he has pursued his bee-keeping labours. They would like him back, but yet they would not have him back prematurely—that is to say, they wish that he may have a full reward! The plucky way in which he volunteered in the dark days of our discouragement, and the bravery and resource he has displayed on the field of battle make the Eynsforders proud. Bravo, Wilfrid Gutch! is the response from all his brother bee-keepers. They feel that he and many others of the craft who have fought bravely are worthy of reward.

Mr. Gutch was specially mentioned in a dispatch after the action of Swartzkopfontein, but he has declined to be recommended to Lord Roberts for a commission in the Regular Army. He thinks himself, although yet young, too old to permanently change his profession. In October he was with Lord Methuen's force and was one of Lord Chesham's orderlies. Up to November 6 Mrs. Gutch had received no very recent intelligence from her son; but she now writes: "I am not anxious at the non-arrival of letters, but I am nervous lest news should come to me from the War Office." In that little sentence how much is involved, and how deep are the feelings, and, alas, too, the anxieties, that fill the breasts of British matrons who, like Mrs. Gutch, have the privilege of possessing "a son in the field."

It is now feared that Mr. Gutch may not return before next year. Mrs. Gutch thanks her son's bee-keeping acquaintances for their kindly feeling, and adds: "The Yeomanry have done real 'yeoman's service.' We shall have to make much of them henceforward." And—SO SAY ALL OF US! *Kent, November* 19.

PREVENTION OF SWARMING.

MR. RYMER'S METHOD.

[4149.] In reply to your correspondent, Mr. G. S. Newth (4127, page 437), the illustration shown on page 445 will fully explain the adapting-board. The passage-ways are ½ in., and the board, as stated, is made of ⅜-in. stuff. As to the other questions enumerated, I may answer them as follows:—1. The space between bottom-bar of frames in upper brood chamber and the adapting-board is ½ in. exactly, the same distance as that between a hive and its floorboard. 2. The laying powers of the queen in August being on the decline, the brood nest is receding in size, and I have never had a queen occupying the sections for brood-rearing at this time; consequently excluder zinc then becomes useless. 3. After gently smoking the bees down, every frame is carefully examined for queen before brushing the bees off, and if found she is picked off and put into hive at the entrance, the bees being then brushed off. I have, however, very rarely found the queen in the top chamber, a little smoke causing her to descend to the lower one. Any one not adept at handling queens had better move her off the comb with a feather if necessary. 4. The upper chamber is removed, after clearing out the bees, by means of a super-clearer. In mid-July there are always one or two "W. B. C." section-racks on the top of the two brood chambers, and in taking off the upper brood chamber the section-racks are reversed and the upper chamber cleared of bees as stated. Every surplus chamber must be interchangeable.—J. RYMER, *Levisham, November* 15.

A QUAINT CUSTOM.

[4150.] At one time it was customary in this part to pay tithes on bees-honey and wax, afterwards in lieu of tithes the following charges were made:—

For four swarms of bees or under		1d. each.
For five swarms	,,	3s. 4d.
For six swarms	,,	6s. 4d.
For seven swarms	,,	6s. 5d.
For eight swarms	,,	6s. 6d.

And 1d. more for every additional swarm. In the year 1847 these tithes were commuted into a rent-charge, chargeable on the land, and which is still paid.

I consider that this goes to prove that at one time the bee-keeping industry was extensively carried on here, seeing that tithes were charged on swarms in a similar manner to those charged on calves, lambs, geese, &c.

I have noticed also that all the old farms were provided with accommodation for bee-hives, which in former times consisted entirely of straw skeps.

The chief source of honey is from the heather, as clover is not very plentiful.—HEATHER HONEY, *Hawkshead, Lancashire.*

NEWCASTLE GROCERS' EXHIBITION.

[4151.] Would you kindly allow me a little space in your pages to thank those bee-keepers who helped to make the honey department of the above show a success by sending exhibits? Considering the fact that no money prizes were offered, it was very good of those who responded to my appeal made in your columns. My experience of bee-keepers as a class is that an appeal made to them in the general interest of the craft is sure to be responded to, no matter what the undertaking is.

Also I would like to express my thanks to Mr. Weighall and Mr. Kidd for undertaking the work of judging the exhibits. More painstaking and conscientious judges it would be hard to find. Nor were the duties by any means light, and it is gratifying to note that their decisions gave universal satisfaction, as I did not hear a single adverse criticism on any one of their awards. I also have to thank Mr. Waddell, of Wooler (Sec. Northumberland B.K.A.), for his assistance in staging and re-packing the exhibits; indeed, his help and presence was invaluable during the whole of the show week. For the hearty north-country hospitality extended to me by local bee-keepers I am also deeply grateful, as they made what would otherwise have been an irksome task a really enjoyable time, and I hope to have the privilege of again visiting them, and feel the genuine grip of a north-country bee-man's hand, and "talk bees," as we did at Newcastle.—W. HERROD, *Swanley Horticultural College.*

FUGITIVE PAPERS

ON ANCIENT BEE-BOOKS.

3.—"THE FEMININE MONARCHY" (1704.).

[4152.] It must be remembered that "The Feminine Monarchy" which I have noticed in my last paper really represents the date 1609, when it was first published, and not 1704, when it was reprinted. Mr. Butler notes many things which we now know to be correct. For instance, he advises widening the entrance to the hive in summer, and reducing it later on account of robbers, who "are Very busie in plundering the neighbouring Hives, especially the Weaker Stalls, whether they be small swarms, or stocks that have lately cast twice, wherefore set up the Winter doors and fasten them with good loam that the Hive be close in all places." He also says that those which "did not by August beat away their Drones, yet have cast twice or oftener that year have but few Bees and therefore are little able to resist the Violence of a multitude of Robbers." Apparently he shut his bees up entirely in the Winter. "My opinion is not to let them stir abroad at all in the 3 Winter months mentioned (Nov. Dec. and Jan.) but to let them sleep and slumber in the Hive," though he says you may let them out "in the Warmest part of the day." Also, "if the Winter be extream it will be good to House them in Warm Sheds or Outhouses." He speaks of the drone as "a gross stingless Bee spending his time in Gluttony and Idleness at others cost." Though he liked to see drones early in the season as a sign of strong stocks, he advises later on the use of a "Drone-pot made of small twigs whose ribs are to be at that Distance that the small Bees can go easily in and out." This is to be "applyed when the Drones are busie at play."

He also notices that in a moist summer we get most swarms. He advises the return of "Castlings," and the way is "by Knocking them down upon a Table close to the door and their fellows that are behind will Soon be in with them, and if they rise again Serve them so till they Cease, but if you see them rising before the Queen come forth shut them in a while and that will stay them." He noticed what we call the piping of the queens, for he says, "They understand each other by their notes and answer in Harmonious Strains having as it were a Sweet Language amongst them, and it has been observable, when the Prime Swarm is gone, if the Stock shall cast any more the Eighth or Ninth Evening after, the next Prince, when she perceives a competent Number to be fledged and ready, begins to tune in a trebble Note a mournful Ditty as if she prayed the Old Queen to let them go with her as her Subjects to Plant a new Colony to which if she replies by tuning her Base to the young one's Trebble as commonly she will, though sometimes scarcely entreated in a Day or Two, then does she consent, and therefore unless foul Weather stay them till it be too late you may assuredly look for a Swarm, which however seldom ariseth the next Day, though the Weather be very pleasant, but after the third Night's Warning, they will accept if indifferent Weather such as the Prime Swarms will not go abroad in and as the Queen's Voice is a Grant so her Silence is a Denial, crossing in this the Proverb that *Silence gives consent*, for without the answer they have no consent, nor will they Stir from the Hive." Mr. Butler's observations carried him near the truth, wonderfully near considering he had only "Straw Hives bound with Bramble."

His mistake was that he thought—though I do not see that he states it—that a young queen had gone with the prime swarm, the old queen remaining, and that from her other young queens asked leave to depart. The silence he mentioned was not a denial, but arose from the fact that the first hatched young

queen had destroyed the remaining queen cells and became mistress of the hive.

Though, as already mentioned, Mr. Butler calls the workers "Mother Bees," he also says, "If the Queen Bee produce many Princes in one Hive they destroy or drive out all that are not necessary to their swarming, and this they do to keep concord among themselves in a perfect Monarchy." From this it appears that he thought the queen was the mother of the princes.

I am indebted to Mr. Sumner Wilson for the fact that the Latin translation was made by Richard Richardson, of Emanuel College, Cambridge. The so-called translation of 1704 is made by some one who modestly hides his identity under the initials "W. S."—A. A. H.

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Schweizerische Bienenzeitung (Switzerland).—The American apiarists, Wilson Bros., report that during the last two years the most honey was obtained from stocks placed in the shade.

Wormwood (wermuth) is recommended for keeping away the wax-moth from frames and combs whilst stored.

It is a matter of interest to note that during the heather season in June last extra trains were run (during the night) to convey the stocks of bees to the Lüneburger Heide (heath). Altogether five such trains were run.

Deutsche Illustrierte Bienenzeitung (Germany). *Propolisin as a Remedy against Foot-and-mouth Disease.*—A landed proprietor reports in the *Deutsche Bienenfreund* that he requested a veterinary surgeon to prescribe for cattle suffering from the foot-and-mouth disease. The veterinary replied that no remedy was known to him. On the recommendation of a farmer, however, he tried propolisin, with the following results. He says: I washed the feet (resp. claws) of the cattle affected with propolisin solution and gave each animal about one teaspoonful of the same on a piece of bread two days running. The results far exceeded my expectations. Not only did the animals eat their food next morning with relish, but the supply of milk increased again to its former quantity, and fever disappeared. Thus, in several days I had quite got rid of the plague, and I am of the opinion that if propolisin is applied in good time, before the disease has been able to make much progress, the epidemic can be easily held in check.

A bee-keeper signing himself "B." gives an interesting account of a swarm which he noticed one day at the corner of a wood while out for a walk. He ran home to fetch his swarming tackle, but was surprised to find on his return that the whole swarm was in a state of great excitement, and on closer inspection found that a ringed snake had crept into the middle of the cluster, where it had evidently thought to enjoy a hearty meal. Having, however, removed the snake (which was already by this time considerably injured by stings), the swarm settled down, was afterwards hived, and has since developed into a satisfactory colony.

THE INFLUENCE OF LOCATION

IN REGARD TO SUCCESS IN BEE-KEEPING.

Three times since I began keeping bees the discussion of large *versus* small hives has been commenced in the bee papers, kept up a year or two, and then dropped, only to begin again two or three years later. Each time the same arguments have been presented by substantially the same writers. Each time the conclusion has been reached that it was a matter of "locality;" but why some localities require a certain method of management, and why some others require a different method, has not been explained. Why does Dadant's locality require large hives and correspondingly large colonies? Why does Doolittle's locality need small ones? What influence has the more or less successful wintering due to the climate, upon the condition of colonies in spring, and the subsequent management? What management is required for a short, heavy flow of honey, and what for a long, light flow? What for localities having a fall flow, &c.? All of these points should be thoroughly investigated and understood. We should be able to say: A given locality of such and such climate, honey-flow, &c., requires such and such management, and we ought to be able to explain *why*.

I can only describe the characteristics of East Tennessee from an apiculturist's standpoint, and explain how those conditions brought me to my present ideas on the subject. I may add that I am writing from the standpoint of a comb-honey producer.

Beginning in the spring of the year, we may say that our honey-flow, or rather our honey season, begins about April 1, and ends about the middle of July. But it is by no means a continuous flow. In April, fruit blossoms; in May, after an interruption, tulipwood. Then another interruption until the persimmon flow comes in June; then basswood and sourwood during the latter part of June and July. Basswood is found only away in the mountains; there is none here. Some white clover bridges more or less the interval between fruit-blossoms and poplar, but not enough to be depended upon for surplus. Occasionally there is a heavy flow of honey-dew during May and June; generally of a tolerably fair quality, but sometimes abominable in taste and colour.

What increases the difficulty is the irregularity of these different flows. Often the fruit-blossoms and poplar flows are interfered with by bad weather. Sometimes there is honey-dew; sometimes none. Sometimes the sourwood yields, and sometimes not. The persimmon has never failed yet with me, but there are only a few trees here and there, and the period of blossoming is very short.

Thus there is absolutely no way to tell in advance which of these sources will yield, and which will not; so the only chance to secure surplus is to keep all colonies strong during the whole season (three months and a half), so as to catch whatever flow may happen to come. I am speaking for Tennessee generally. In my immediate neighbourhood there are very few tulip trees, and no lindens.

Needless to say that a management similar to the one advocated by Mr. Doolittle and others would be a failure, for the flow for which they would build up might be the very one that would fail. In fact, I tried once to build up my colonies very, *very* strong for the sourwood flow, when, lo and behold! that flow failed completely.

To keep colonies of bees in full strength during three months and a half, it is necessary to control swarming, otherwise both mother colonies and swarms would be too weak during the remainder of the season. This is one of the reasons which prompted me to adopt large hives. I had some correspondence with the Dadants on the subject, stating that there was no demand for extracted honey here, and they advised me to build up a home market as they have done. Unfortunately, the bulk of our honey is dark, rather inferior in quality, and varies greatly both in taste and colour. To build up a special home market at advanced prices, it is necessary to have first-class honey.

Prevention of swarming can be accomplished only by caging or removing the queens at the proper time. This, however, entails quite a loss of brood, as the bees must be at least four days without unsealed brood. Those four days or more without brood are the key to success. After the bees have begun to build queen-cells they will continue as long as there is unsealed brood, and the conditions of honey-flow, temperature, strength of colony, &c., are favourable. After having been without unsealed brood a few days they will not resume cell-building, at least not for some time, and not seldom for the remainder of the season. But, as stated above, this entails a loss of brood. With me swarming takes place in May. The brood lost at that time is precisely what would furnish the field-bees for the sourwood flow in July. So it becomes necessary to reduce the loss to a minimum.

By using large hives, putting on supers early, and protecting them against cold nights so that the work goes on in supers day and night with no interruption, using bait-sections, shading hives on hot days, &c., I have, for the last six years, succeeded in reducing swarming from 5 to 15 per cent. of the number of colonies.

Under such circumstances, rather than requeen throughout, I let the colonies swarm, catching and returning the queens, or giving the swarmed colonies others after they have been a few days without unsealed brood; or I let them have queens out of the cells they have built. If occasionally, in examining the parent hives, I find cells started, I treat them the same way without waiting for actual swarming.

Between the honey season and the winter there is a little nectar gathered every day except in the very dry seasons. That quantity increases materially when the golden-rod and aster blooms, but there is never enough to furnish any surplus, and often not enough to winter the bees on. During that period there are plenty of weeds and flowers of all sorts along the fences and in the fields after wheat and oats are harvested, in the pastures and other places, but they yield very little honey, and, as a rule, only in the early morning. This must be due to the fact that the ground is too dry to admit the formation of the nectar, for occasionally, if an abundant rain comes, there is something like a flow of honey for a few days after.

The result is that the more bees there are in a hive, the more flowers will be visited and the more honey brought in; in fact, while strong colonies will gain in population and stores during that period, medium ones will only sustain themselves, and weak ones will lose, if they do not get robbed by the others, which happens occasionally. The result is, that by the time winter sets in the difference between large and small colonies will be greater than it was at the close of the honey harvest.

During the winter the difference becomes still greater. Strong colonies will eat proportionately less, lose a less percentage of bees, rear some brood, and when spring comes they will be very much stronger in proportion, begin brood-rearing in earnest sooner, and be ready to enter the surplus apartments in full force long before weaker colonies can even recover their lost strength. Do you wonder that I am such a strong advocate of large hives and larger colonies?

If this state of affairs were a purely local one, I should not have written this contribution; but it applies in its main characteristics to the whole country south of the Mason and Dixon line except Florida. There are differences, of course, between one locality and another. The further south we go the shorter is the winter. Then, below this section there is the cotton, while, on the other hand, the sourwood does not exist in the low plains. But, nevertheless, the general features of our Southern States' honey-production remain the same. We have a few months during which nectar can be gathered from different sources

but in a very irregular manner, some sources yielding this year, and some other yielding the next year, necessitates the keeping up of colonies to their full strength during several months; then the late summer and fall season, with very scant yielding of nectar, during which the strongest colonies have a decided advantage over the others.

Other sections of the country are under different conditions. In the Northern States there is a definite honey season of a few weeks from white clover or basswood, or both, and swarming takes place at the beginning of it, Some of these have, besides that, a honey-flow from buckwheat later in the season; and in a few localities there is also a fall flow of considerable importance.

In Colorado and other North-western States they have two distinct flows. Through some correspondence with a prominent Colorado apiculturist, I have learned that one difficulty with them was that during the honey-flow the bees were filling the brood-nest with honey and curtailing the brood, with the result that at the time of the second flow the number of field-bees was considerably reduced. Some portions of California seem, on the other hand, to have a long continuous flow, with the swarming taking place before the flow opens.

I have done my part. Now, if others in different localities will do the same, we will eventually have the matter fully understood. —ADRIAN GETAZ, in *Bee-keepers' Review* (American).

Queries and Replies.

[2554.] *Suspected Comb—Source of Honey.*—I am forwarding with this a small piece of brood-comb cut out of one of three frames removed from a hive when contracting the space for wintering. There is about 30 lb. of honey in the remaining seven frames left in hive. 1. I should be much obliged if you will, through your journal, let me know if there is any sign of foul brood, and if you can also say from what source the honey is gathered? 2. Will you kindly give me name and address of secretary of Devon Bee-keepers' Association?—A BEGINNER (GLADYS), *Devonport, November* 15.

REPLY.—Comb received, which has never been used for brood, contains only fresh pollen and honey, the latter being of excellent quality and almost wholly from white clover.

"PRESS CUTTINGS" ABOUT BEES.

INTERESTING, USEFUL, AND "OTHERWISE."

Bee-keeping brings Profit. — Ladies make successful bee-keepers. One lady started with a single hive at a cost of about 30s. In eight years she had nearly thirty hives, all purchased out of profits, which in that time amounted to close upon £160, and ranged from £16 to £60 for different seasons.—*Cassell's Saturday Journal.*

Honey-getting is easy in Abyssinia. The British official trade report states that wicker baskets are placed in the trees, and are filled with honey and wax by wild bees.—*Daily Mail.*

Bees as Message Carriers.—Bees, if a provincial paper may be believed, are capable of being put to other uses than that of gathering honey from every shining flower. A West Country farmer is training them as letter carriers. A bee is taken away from home, a letter printed in microphotography is gummed to his little back, and he is thrown into the air. Home he goes like a carrier pigeon, and the advantage he would have over his big brother in time of war is obvious. It is very unlikely that he would be seen; and, if seen, it would tax the skill even of the finest Boer marksman to bring him down. This is an idea worthy of the attention of the War Office. Apiculture may yet be included in the soldier's training.—*Westminster Gazette.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** *Basingstoke Compensation Fund.*—We are now enabled to correct the following *errata* on page 407:—For "W. T. Joyce 5s." read W. T. Joyce, 2s. 6d., W. T. White, 2s. 6d. Through a printer's error the name R. T. Andrews was printed "R. Hunton." These corrections, of course, do not alter the total amount received.

"ANXIOUS" (East Lancs.). — *Insufficient Stores for Winter.* — 1. "Four or five pounds of sealed food" is altogether insufficient to winter a stock of bees on. 2. Do not attempt to make up the supply by giving syrup-food so late in the season as this; prepare a good-sized cake of soft candy, weighing 2 or 3 lb. (see that it *is* soft and smooth in grain), and place this under quilts, packing well all round to prevent the escape of warmth from brood-nest. Renew as required, and keep up the supply as long as bees will take it.

GLADYS (Devon).—The Hon. Secretary of the Devon B.K.A. is Mr. H. Tolson, Park House, St. Thomas, Exeter.

Editorial, Notices, &c.

IRISH BEE-KEEPERS' ASSOCIATION.

A meeting of the Committee of the I.B.K.A. was held on the 19th inst. at Dr. Traill's rooms, Trinity College. Present — Mr. Chenevix and afterwards Dr. Traill in the chair—Messrs. Abbott, Drought, Watson, and M. H. Read, Hon. Secretary. The minutes of the previous meeting were read and signed; some accounts were passed, and a deputation was appointed—consisting of Dr. Traill, Rev. J. G. Digges, Mr. Watson, and the Hon. Secretary—to lay before the Department of Agriculture a scheme passed at the previous Committee meeting for the extensive promotion of the industry of bee-keeping throughout Ireland with the help of the Department, and certain modifications of the scheme were approved of.

The deputation subsequently had an interview with the Department—Mr. Gillies also being present—and discussed the scheme in its amended form. The Department reserved its decision pending fuller information, especially as to whether the industry is really profitable.

The Hon. Secretary would be glad to hear from bee-keepers who keep an account of the expenses and receipts of their apiaries, to whom he may refer the Department.

COLONIAL HONEY FOR HOME MARKET.

PROPOSED EXPORT SCHEME OF THE HUNTER RIVER B.K.A.

We gather from the current issue of the *Australasian Bee-Keeper*—just to hand—that at the annual meeting of the Hunter River B.K.A., held at the Technical Museum, West Maitland, N.S.W., on September 27, a scheme was propounded for sending over an experimental shipment of Australian honey to this country. The proposed scheme is the outcome of previous suggestions and discussion, and as the matter is of considerable interest to British honey-producers, we have thought it well to reprint from our Australian contemporary a full account of the proceedings as reported in the issue of November 15, 1900.

After the election of officers and some routine business had been gone through, the report proceeds :—

"The minutes of previous meeting were now read and confirmed. The business for consideration was the report of the Export Committee and regulations made by them, which was prepared ready to submit to bee-keepers as follows :—

Export Scheme of the Hunter River Bee-Keepers' Association.

The Hunter River Bee-Keepers' Association have had under consideration for some time past the undertaking of some practical work to endeavour to place the honey-producing industry on a substantial foundation, and with that end in view have prepared an estimate of the probable cost of making a shipment of honey to Britain in charge of a competent salesman and bee-keeper. This estimate, as finally adopted, is submitted for the careful consideration of bee-keepers, and their co-operation is asked in the scheme. The regulations submitted are those under which the Hunter River Bee-Keepers' Association will accept honey from bee-keepers (only) and sell same in the British market. All who wish to join in the scheme will please communicate forthwith with

R. J. TURTON, Hon. Sec.,
Hunter River Bee-Keepers' Assoc.,
East Maitland.

Estimate of cost of placing a shipment of 50 tons of honey on the British market :—

	£	s.	d
To 50 tons of honey delivered in W. Maitland storage in Maitland prior to shipment, say six weeks	6	0	0
„ Freight Newcastle to London at £2...	100	0	0
„ Expenses in London, including wharfage, lightering, warehousing, and insurance, taking honey at £22 per ton —£1,100 at 2½ per cent. (based on a previous shipment)	27	10	0
„ Fare to London, return, one man	37	16	0
„ Wages one man, say twenty-six weeks at £4	104	0	0
„ Board one man, while on land say fourteen weeks at £2 ...	28	0	0
„ Hired help two men, say fourteen weeks at £1 10s. each	42	0	0
„ Delivery at shops, &c., 50 tons at say 20s. per ton	50	0	0
„ Display exhibits at say two shows	40	0	0
„ Rent of store fourteen weeks at £3 per week	42	0	0
„ Fire insurance in stores £1,800 at 6s. per cent.	5	8	0
„ Expenses of advertising, canvassing, &c., fourteen weeks £4	56	0	0
„ Allow for incidentals and contingencies	50	0	0
„ Amount paid to producers out of sales as returns come to hand 50 tons at 2d. per lb.	933	6	8
„ Surplus profit to be divided *pro rata*	344	12	8
	£1,866	13	4
By 50 tons of honey at 4d. per lb.	£1,866	13	4

Regulations.

1. Honey to be white box, yellow box, iron-

bark, lucerne or other approved honey. Must be light coloured, clear and mild flavoured, and if crystallised have a white and fine grain; to be to the approval of the Hunter River Bee-Keepers' Association and Government expert.

2. All honey to be put up in marketable tin packages of 2 lb., 4 lb., and 7 lb. size at the apiary, labelled, and packed in cases. Labels to be purchased through the Hunter River Bee-Keepers' Association, and tins and cases to be uniform and approved by the Association.

3. An equal number of each size of tin to be sent by each bee-keeper. [Note.—The Association is of the opinion that the smaller size tins will give the best return, but as the shipment is somewhat experimental they consider it advisable to send an equal number of each size.]

4. Comb honey to be reputed 1-lb. sections packed in cartoons and shipping cases. [Note.—Combs must be secured to wood on four sides.]

5. All honey to be delivered at the depôt of the H.R.B.K.A. at least three weeks prior to date of shipment. [Note.—The date of shipment will probably be after August, 1901, so as to meet the season of best demand.]

6. Any honey not properly packed or not of approved quality, or not in accordance with these regulations will not be forwarded, and will remain in store at owner's risk and expense. [Samples will be received and reported on by the Association.]

7. The estimate submitted is not to bind the H.R.B.K.A. or any of its members in any way, and is submitted as a probable profit and loss account of the undertaking. The Hunter River Bee-Keepers' Association, though acting in the best interests of all parties, take no risk whatsoever.

8. The H.R.B.K.A. have selected Mr. ——— as salesman, who will accompany the shipment and dispose of it to best advantage in the British market. The salesman will give a bond for £300.

9. The H.R.B.K.A. will appoint a committee to approve of the honeys.

10. To meet initial expenses the members have arranged to give a personal security for an advance of money by the bank, which advance will have first charge on sales.

11. The salesman will conduct a strictly cash business.

The regulations submitted were adopted after being well discussed and amended.

Mr. M. Scobie said that there was but one thing necessary to complete the regulations, and that was to add the name of the person who would take charge of the sale of the honey in Britain, and as any person who was appointed would need to have timely notice in order that he may be able to make arrangements for carrying on his business during his absence, he would nominate a person if the meeting permitted. The meeting having expressed approval, Mr. Scobie moved that "Mr. R. Patten, of Wellington, N.S.W., be appointed the salesman for the export scheme, provided that the Association were successful in getting the consignment together." All Hunter River Bee-Keepers knew Mr. Patten well, and he felt sure that if the country were searched a better and more capable man could not be nominated. The motion was seconded by Mr. R. Turton. All present concurred with the mover's remarks, and expressed the opinion that such an appointment meant success to the undertaking. The motion was carried unanimously."

We do not see any cause for alarm on the part of British bee-keepers at the prospect shadowed forth by the above details, so far as regards lowering the market price of the home-grown product. The scheme is, of course, at present only in an elementary stage, and when we take into account the large sum (nearly £590) set down as the probable cost of placing the proposed shipment of fifty tons on the British market, in conjunction with a first payment of no more than 2d. per lb. to the producer, who has to provide cases for section tins for extracted honey, and shipping cases for the whole, along with the expense of getting his produce to port of shipment, it seems to us that the modest surplus profit estimated as likely to be available for distribution *pro rata* will hardly be a sufficiently bright outlook to tempt a large response.

In any case it will resolve itself into the question of quality, and as honey produced in our colonies has already competed with that of the mother country, we do not suppose that any appreciable change in market prices will result. But however this may be, it is well we should know what is going on among our bee-keeping brethren in the Antipodes.

On the other hand, we must again urge our readers who produce honey for sale the all-important need for exercising increased care and business discernment in placing the home-grown product before consumers. We can only claim superiority for British honey if the quality bears out what is claimed for it. No fair-minded man will ask that we should do anything by way of disparaging colonial honey if it is honestly labelled and sold as such. So long as this is done British bee-men will not do more than expect a better price for home-grown honey than its superior quality can fairly claim for it. It must therefore be our task to put only good honey on the market for table use.

HONEY SHOW AT LUDLOW.

LUDLOW CHRYSANTHEMUM AND FRUIT SOCIETY.

A most successful exhibition of the above Society was held in the Town Hall, Ludlow, on Thursday, the 15th inst. There were two classes for honey, which was tastefully arranged between several epergnes. In the class for

six 1-lb. jars extracted honey the competition was very keen, first-prize honours being secured by Mr. Th. Salter, with a honey of full and aromatic flavour, probably of wild mint. In the class for six 1-lb. sections the first prize went to Mr. A. Hamer, for a finely-capped and well-filled half-dozen of nice clover honey, which were preferred to the sainfoin specimens. Mr. Alfred Watkins, of Hereford, kindly acted as judge. The following is the prize list forwarded by the Hon. Sec. of the Society, Mr. John Palmer :—

Six 1-lb. Jars Extracted Honey.—1st, Th. Salter, Shrewsbury; 2nd, H. F. Beale, Andover, Hants; 3rd, G. Spearman, Colesbourne, Andoversford; h.c., J. Boyes, Cardiff, A. Hamer, Llandilo Bridge, Hy. Wood, Paradise, Lichfield.

Six 1-lb. Sections—1st, A. Hamer; 2nd, G. Spearman; 3rd, Hy. Wood.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

FOUL BROOD.

CULTIVATING B. ALVEI.

[4153.] From what I have read about foul brood I am led to believe that the sterilising of beeswax can be easily done. We are told that boiling will destroy bacilli but has no effect on spores. Again, it is said that if spores are introduced into a suitable medium, and raised to a proper temperature, they will germinate into bacilli. Assuming this theory to be correct, we must come to the logical conclusion that if foul-broody wax be boiled in honey—which, no doubt, is a suitable medium—the spores will germinate and get destroyed.

I give my ideas on the above matter for what they are worth, and request an insertion in the B.J. in order that we may get an expression of opinion from some competent bee-keeper who may be in a position to put the theory to a practical test. The opinions of our Editors would, of course, be useful. As a victim of this fell disease in my apiary I think that no effort should be spared to eradicate it from the country, and that no one should conceal an idea of his own that might tend to this end.—M. DEMPSEY, *R.I. Constabulary, co. Carlow, November* 23.

[Having no desire that any ideas useful to bee-keepers in the direction indicated may be concealed we print the above, but venture to think that if our correspondent had read what has already appeared in this journal (*vide* page 122 of B.J. for March 30, 1899) on the subject of cultivating *Bacillus alvei*, he would change his views with regard to "boiling in honey" being of any use in the way suggested. —EDS.]

A STRAY SWARM IN AN OAK TREE.

[4154.] I am sending you the following particulars for insertion in B.J. regarding a swarm of bees which I succeeded in removing from an oak tree, if you think the details sufficiently interesting :—"The swarm in question I became the possessor of so recently as the 17th inst. My father having brought me word the day previously of a swarm located outside in an oak tree in Upper Firdowns wood, situate about two and a half miles direct east of the city of Canterbury, I set out the next day to try and secure them, and, following up a "shooter's" track on entering the wood, I came upon the swarm in a small oak tree about 10 ft. from the ground, the bees being "hived" on six combs about 1 ft. long fixed to a small limb and the trunk of the tree. The four centre combs being well covered with bees, I climbed the tree to cut away the combs, but the bees were so vicious I was obliged to get down, as I had omitted to bring my veil. So I tied my pruning knife to a stake and cut the combs loose as I stood on the ground and let them fall. I picked up each comb as it fell and quickly put it into the skep and covered it over with a cloth, scarcely a bee being killed during the operation, and I have put them on four standard combs where I should think they feel much warmer, at all events, than they were outside. The queen seems to think so as she has already started to lay. The swarm would have starved for want of food, to say nothing of cold, in about three weeks' time, as there was very little stores left, but I think our Editors will agree that the bees had stood it remarkably well in the very exposed position they were in, the "woodreve" telling me that he found them there early in June.—ARTHUR H. HOMERSHAM, *Sturry, near Canterbury, November* 24.

FUGITIVE PAPERS

ON ANCIENT BEE-BOOKS

4.—"THE FEMININE MONARCHY" (1704).

[4155.] I feel that my notes on this book must draw to an end in this paper if there is

to be any space for referring to other old books.

The study of them has a fascination which makes it difficult to know how much to leave out, yet much must be omitted unless I run on to an undue length.

Mr. Butler accurately observes that those stocks which keep their drones late are not so valuable as those that kill them off at the usual time. "Of such stalls take heed, for they are careless and languishing, for those that soonest rid the drones are like to be the forwardest bees the next year."

It is a surprise to learn that nearly 300 years ago, when the book was first published, the value of *doubling* was known. "If the honey weather hold in the midst of June your best way is to double the stall by twining the skirts of the hive upwards and setting a well-prepared hive fast upon it, into which they will ascend and work and breed, and in the end of August drive them all into the new hive and let them stand." He says regarding the custom of tanging, "When the swarm is up and busie in their dance and jollitry it is a common use and custom, for want of other musick, to play them a fit of mirth with a pan, bason, or candlestick, or such like instrument of brass; so to stay them, and this indeed the ancients used, as Claudian and Virgil witness, and this for two reasons:—First to lay publick claim to them, that a covetous neighbour having bee-stalls near you may not lay a wrong claim to them; and secondly, to drown the noise of their singing or voice, that they may not hear the command that would 'tice them to fly away." He adds, "No law forbids you to pursue and recover what is your own." He advises uniting swarms, and says, "Two united are better than three which are alone." He is well up to date in recommending that swarms be fed, in placing a supply of water near his hives and in taking precautions agains trobbing; but he is in error in thinking that wax is "matter which they gather from flowers with their fangs, and that being softened in their mouths, is by the heat of the hive and their bodies wrought into combs; yet this wax they bring not home in their mouths, but on their legs, and this work is so nimbly and closely done that it can hardly be perceived."

His ideas on honey dew are equally strange. "The woodlands of Hampshire have better hony than the heath, and the campaign lands better than the woodlands, and the cause is by reason the flowers are most fragrant and virtuous, as well in the fields as gardens, in the sweetest air, so that the hony dews extracted rom them are very fine;" and later on, "their greatest helps are the hony dews descending in the night-time on the leaves of the oaks, which they suck off in the morning before the sun dries it," and "this dew is concluded to be an extract of all the sweets of the earth exhaled by the sun, and in the night-time let fall as other dews." He says it makes the bees "very jocund and merry."

He describes taking the honey by the, till lately, too common method of the sulphur pit, but would gladly have welcomed a more excellent way, and actually advises and describes close driving, and says, I hold it the better way to drive one stall into another that is pretty well stored, so shall you have the hony of one and preserve the lives and encrease of both." All honour to him for recommending in his own way what our bee associations are doing now with improved methods.

I will conclude my notes on "The Feminine Monarchy" with a quaint recipe for preparing a hive for swarm. After speaking of seasoning it with marjoram, fennel, bean-tops, and the like, wiping it clean, and sprinkling it with mead, or honey and water, he says:—"If the hive has been used before, and you conceive the former dressing will not make it sweet enough, let a hog eat a handful of malt, beans or peas in it, rub the froth he slavers in eating about it, and then wipe it with a clean cloth; so sweeten it as before directed, and the bees will like this better than any new hive, and so you may do by a new hive when the bees are froward, and will not otherwise abide in it." I do not think we need ask Mr. Cowan to add this to the recipes in the "Guide Book," but it should not surprise us when we remember the fearful nostrums proposed as medicines for human beings in those days, many of them more fitted for the witches' cauldron in "Macbeth" than for the British Pharmacopœia.—A. A. H.

SPACING FRAMES.

[4156.] As I do not consider the British "Standard" frame by any means perfect in the matter of "spacing," while the difficulty of preparing hives for travelling to the heather is of great importance, I therefore beg to make some suggestions for certain improvements which should be useful.

About three years ago, when I had an apiary in Colorado, U.S.A., the A. I. Root Company, of Medina, Ohio, introduced a method of spacing frames by driving small staples under the ends of top-bars and into the centre of each side-bar, thus allowing $\frac{1}{4}$ in. to be cut off from each end of top-bars (which previously regulated the spacing between frame-ends and hive-sides) and so prevented the bees from fastening the frames down by propolising the ends of top-bars. It also gave more finger-room in lifting frames.

There is also the "Hoffmann" frame, supplied by the same firm, which secured side-spacing in the most effectual manner, by being close-ended, *i.e.*, the side-bars touched each other for $2\frac{1}{2}$ in. of their length down from the top. This put a stop to any chance of frames swinging or moving in any way.

(*Continued on page* 470)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

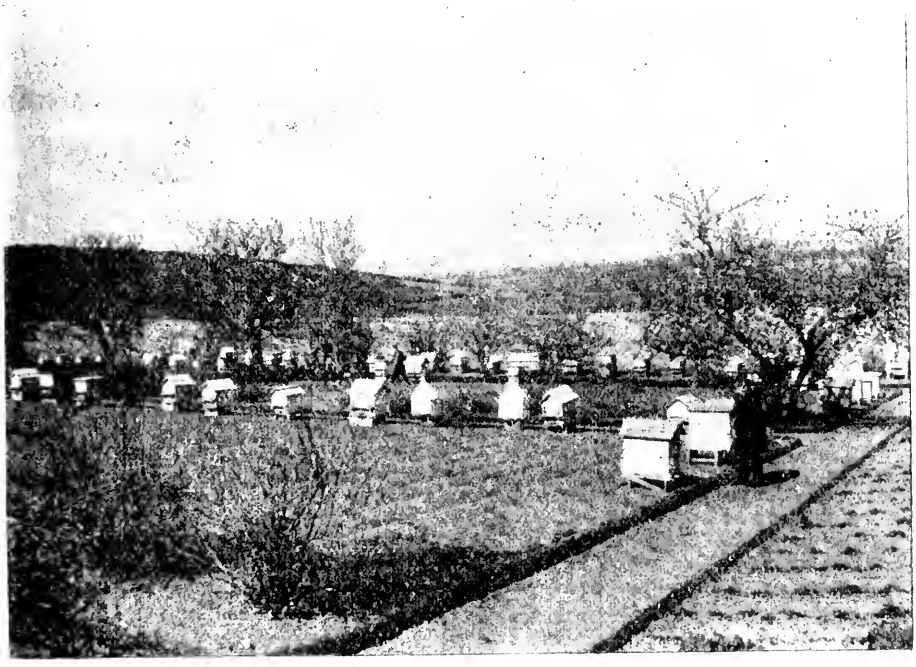
The interesting illustration of a fine and roomy bee-garden seen below is from a photo of the apiary of the Rev. Canon Procter, an old and respected reader of our journals for many years, the figure on the right of picture being the Venerable Canon himself.

Situated in co. Clonmel, Ireland, in what the late William Raitt, after a personal visit, described as "a veritable bee paradise," the apiary has, for many years past, been successfully worked under the personal supervision of its Rev. proprietor, who must have been singularly fortunate in his choice of a bee-man able to carry out not only the heavy labours connected with the apiary, but also the packing of comb honey for shipment. We arrive at the latter conclusion from being told, by one whose duty it was (when in the employ of the late Geo. Neighbour & Sons) to unpack consignments of sections received regularly every season from Tullamelan Rectory, that "it was quite a novelty to find one broken section." We also learned from the same source that the Irish sections referred to did much to establish Messrs. Neighbour's large trade in comb honey, owing to the uniformly excellent quality and the condition in which the sections were received in London.

The photo was taken some time ago—the tone-block from it having been prepared so long ago as May, 1898—and it is with much regret that we learn that Canon Procter, owing to his advanced years (he is over eighty) and failing health, has been and still is unable to write us the particulars of his bee-keeping, which we had hoped to receive in the usual course. This being so, it is perhaps well to insert the illustration with such few particulars regarding the apiary as are available, while hoping that our venerable friend may ere long be so much improved in health as to be able to write a few useful hints on the methods of working which have proved so successful in his hands.

In common with most of us who have kept bees on a large scale, Canon Procter has, we understand, been troubled more or less with foul brood in his apiary. We have no doubt, however, that the care exercised in other respects with regard to the bee management will result in this bee-pest being kept in check or dealt with effectually whenever it becomes known. It was on our friend William Raitt's report of the splendid luxuriance and extent of the bee-flora of the district, and his account of a delightful visit he had the privilege of enjoying some dozen years ago at Tullamelan Rectory, which made us hope one day to see the place and the bees, but circumstances have prevented this wish being fulfilled, and now it seems further away than ever.

It only remains for us to hope that our venerable bee-friend may be spared for many



THE REV. CANON PROCTER'S APIARY, TULLAMELAN, CLONMEL, IRELAND.

years to come with improved health, and that in adding to his length of years his interest in the bees may remain unabated. In expressing this wish we shall certainly be joined by all our readers.

CORRESPONDENCE.

(*Continued from page* 468.)

I had among my hives at the time a few of older type fitted with frames having top-bars, sides, and bottom-bars all of the same width, and no means whatever of spacing but the eye, thus rendering it necessary to use much care in replacing after removal for examination. After using the staple-spacing for some time I resolved to try and apply it to these old frames, and thus bring them "up to date" in efficiency. This I succeeded in doing first by shortening the top-bars, then using a staple under the end of top-bars as in the Root plan already mentioned, in order to regulate the distance between side-bars of frame and the hive-side. I then took the first frame from one side of the hive, and in this drove four staples to project $\frac{1}{4}$ in. on one side of the frame, and two staples on the opposite —or right hand—side of the frame, one at the top and one at the bottom, these last projecting $\frac{1}{2}$ in. I next drove similar staples (on the right as before) in the side of each frame, except the last one, which latter would, of course, face the hive-side (or the dummy-board as the case might be), and in these were driven respectively four staples to project $\frac{1}{4}$ in. and two at $\frac{1}{2}$ in. as before.

Thus when the frames were all hung in the hive, the staples run up one side and down the other, and thus cannot interfere with each other. Besides, the frames when thus treated sit as true and steady in the hive as if they were one solid block, yet are as easily handled as any ordinary frame.

If any B.J. reader will take an ordinary B.B.K.A. Standard frame (without any spacing arrangements on it) and drive round-headed nails or tacks—or staples, if preferred—in the same manner as I have described above, he will find the result to be just as stated. It also enables one to lift out two or three frames together, bees and all, by simply grasping the top-bars as if they were one frame.

Now for the method of doing the necessary work in a ready manner with staples. The small staples sold for putting down carpets answer capitally for the $\frac{1}{4}$ in. space; and for the $\frac{1}{2}$ in. space use the lightest $\frac{3}{4}$ in. or $\frac{7}{8}$ in. staples that can be found. Make two small square pieces of hard wood, one $\frac{1}{4}$ in. thick and the other twice as thick. Cut a cleft in the end of each so that a staple will stand up in it. Take one of these "guides," hold it where wanted, put a staple in the slot, and with a hammer drive it down to the height of the 'guide." Do this with all the staples of one measure; then of the other and the job is done.

I hope this will be understood; it is rather complicated, but all bee-keepers who know the proper bee-spaces required will see through it.—W. A. VARIAN, *Dublin, November* 24.

[We print the above, not with the idea of conveying to readers anything new or novel in the way of spacing frames, but to give our correspondent's views in comparing American methods with our own. We also think it more than probable that Mr. Varian's bee experience has been gained entirely in the United States, because a very small amount of practice in the craft as followed here would have made him aware that spacing frames by means of staples, round-headed or hob-nails, tacks, wire nails, &c., is a plan by no means new or novel in this country. In fact, after full trial at various times during the last fifteen or twenty years this kind of spacing has almost fallen into disuse.

We may also add with reference to Mr. Varian's mention of the "Hoffman" frame that the principle of the "Hoffman" has been embodied in and adapted is the B.B.K.A. Standard frame for some years past by Mr. J. H. Howard, of Holme, who illustrates the frame so made in his catalogue. Besides, seeing how many of the A. I. Root Company's catalogues circulate in this country, it may be said that our prominent bee-keepers are familiar with every improvement brought out by that firm.—EDS.]

LATE FORAGE FOR BEES.

MELILOTUS OR SWEET CLOVER.

[4157.] Referring to the mention of sweet clover in B.J. of last week (4144, page 457), will your correspondent, Mr. Varian, kindly state where the seed may be procured for sowing in the way described?—NORTH LANCASHIRE BEE-KEEPER, *November* 25.

LECTURE ON BEES.

Very rarely does a literary society of no great pretensions enjoy so rich a treat as on Monday last fell to the lot of the Wesleyan Literary Society at Westow Hill. By some clever diplomacy they got the consent of Councillor Hinton, of Croydon, to discourse to them on "Some Wonders of Bee Life," and with that bait they angled successfully for Sir F. Edridge to act as chairman. Dr. Nicholson played the part of host in welcoming the visitors, and both made themselves quite at home with the audience. Sir Frederick prefaced the lecture with some genial observations, and having called on Mr. Hinton to proceed, he took a pupil's place among the audience. The lecturer entered on his subject with a rush, and gave the impression that he

wanted to be soon done, but it turned out that he had a very long journey before him, and had no chance of accomplishing it except at express speed. He gave a most comprehensive account of the habits, the structure, and the industry of bees, with illustrative facts from other branches of entomology and zoology, hardly pausing for breath during an hour and a half, and succeeded to admiration in demonstrating the wisdom of the Divine Geometer. More than one suggestion of this kind was eloquently emphasised, and cordially appreciated. There were also a few telling anecdotes that served to relieve overstrained attention, but for the most part the lecture was an even and rapid flow of wonderful facts, which might well have seemed exhaustive if Mr. Hinton had not again and again expressed a feeling of difficulty in selecting the points on which to speak. Sir F. Edridge paid, at the close, a well-deserved tribute to Mr. Hinton for his most enjoyable exposition; and, in seconding this, Dr. Nicholson called for an acknowledgment of the obligation they were also under to Sir F. Edridge. Brief thanks from both gentlemen were warmly applauded.—(*Communicated.*)

Queries and Replies.

[2555.] *Brood Cast Out in November—Keeping Properties of Beeswax.*—Would you kindly tell me if there is anything wrong in grubs and young bees as sent being cast out of my hive every day? I should have thought the queen (this year's) would have ceased breeding at this time, so if it is too cold for rearing brood, perhaps there is no harm done. I do not think it can be lack of food. I have had no surplus honey at all this year, owing to the loss of a large swarm, and the season with me has been so bad that the bees did not even gather enough for their winter stores, but I calculated it would at least last them until the beginning of the year, when I would feed with candy. I would be glad if you could tell me:—1. If it is any loss I could be likely to stop, or if it is only a natural thing in this cold weather? 2. Would you also tell me if wax will keep if melted down, made into cakes and kept in a tin box? This year I have only 2 lb. wax, and I do not find that there is a sale for it except in larger quantities. Would it keep in a closed tin box until next year's melting, or will it evaporate and so mean loss?—A Novice, *North Wales, November* 20.

Reply.—1. The brood cast out is in no way diseased, nor need it cause any alarm. 2. Beeswax will keep for any length of time. If of good quality two pounds of wax should be readily saleable to a neighbouring chemist.

[2556.] *Transferring Bees from Hive Roof.*—I beg to ask for a word of advice under the following circumstances:—A friend of mine whom I wish to help in his bee-keeping, has a frame-hive into which he put a swarm this last summer. After hiving the bees, he was not careful to fix the quilts above the frames properly, and, in consequence, the bees got up into the roof, filled it with combs and honey, and made it their brood-nest instead of working in the frames below. They did all this unknown to my friend, who did not examine into what the bees were doing. Some weeks ago I lifted the roof off, and seeing the state of things, removed the empty body-box, fixed up the roof on the floor-board with the intention of wintering the bees in it as they now are. I should think there is at least 40 lb. of honey in roof, as it is quite full of comb. This being the present condition of the stock, I beg to ask:—1. What will be the best way to deal with the hive-roof in spring, and how soon could I begin to operate with safety, as I want to get the bees into the frames of the proper body-box? 2. I fear the combs in roof are not straight enough for cutting out and fixing in the frames, and I would like to know whether it will be advisable to drive the bees into a skep and run them into the frame-hive fitted with full sheets of foundation, or would it be best to set the roof above the body-box again and let the bees work down into the latter, and thus themselves transfer the brood-nest below? Reply in B.B.J. will oblige.—C. Reed, *Wickford, November* 20.

Reply.—1. If the roof is so fixed up on floor-board as to form a comfortable make-shift hive we should leave the bees as they are and be in no hurry to begin operating in spring. It is, however, not very easy to see how a hive-roof can be "fixed up" in the way described, but you are best able to judge of this. 2. Since the combs in roof are not built straight, we strongly recommend the second plan, *i.e.*, letting the bees transfer themselves below on to full sheets of foundation. To carry this out, it only needs to see that the "roof" is fairly well filled with bees in April next or beginning of May, and then set it above the proper body-box as proposed.

Echoes from the Hives.

Stoney Stretton, Yockleton, Shrewsbury, November 24.—The past season, from what I can learn, has been a moderate one for honey in this part. My own bees have done fairly well. One reason for this is, I think, in the spring I united several lots and made some very strong stocks. On October 29 I used up about 70 lb. of honey in making mead. Wasps have been very numerous this year.—J. Bradley.

ON A MODERN BEE-FARM.

[A correspondent sends us the following excerpt from a recent issue of the New York *Evening Post*, and suggests its publication in our pages "as an interesting item of bee-reading in the present dull season." We gladly comply with this request, fully agreeing as to its interest for bee-keepers.—EDS.]

The road ran parallel with the railway along an almost level ridge of limestone rock. It was sweltering hot; even after four o'clock the June sun still kept the heat-devils dancing on the white glare ahead of me. I had crossed into Canada at Ogdensburg, and wheeled somewhat aimlessly along the St. Lawrence and Lake Ontario to Belleville. Hearing, while there, of a quaint, little, old gold mine some thirty miles up the country, I had yielded to a whimsical curiosity, and turned northward to see it. After riding all the afternoon I found that I had passed the "side-line" where I should have turned off; now I was hoping for shade, and deliberating whether to go back or push on to the next village. On the first rising ground I came to a stop. From there I saw my lodging-place for the night; but I did not know it at the time.

It was a small, high-fenced railroad-siding dotted with scores of tiny white squares. There was a shed in the enclosure, also, and a box-car stood outside it. When I rode down to the car I found a strong smell of honey coming from it; there were small windows or air-holes cut in it, too, these being covered with wire netting. I had just begun to suspect the nature of the colony I had happened upon when a sudden, nervous shout for help came from the shed. Running around the car to open the gate and up a little lane through rows of hives, I entered one door of the shed just as two young fellows, muffled in big blue veils, ran in at the other. A brown, sinewy, little old man was bracing himself against a big tin vat, which had slipped from its supporting stools, and was in great danger of upsetting altogether. We three grasped its sticky top and straightened it up; it was half full of extracted honey, and must have weighed over five hundred pounds. The old man cut a sort of pigeon-wing of relief with great agility and rapidly made the loosened foundations sure again. Then he threw a friendly grimace in my direction. "They tell about the lands of Scripture flowin' with milk an' honey, stranger. You pretty nigh saw part of that right here." He picked up a pound square of comb, and, knocking off one of its pine sides, offered it to me. "Eat honey?" I did, and my lips were soon mellifluous. The bees buzzed on the window-panes, and beat themselves against the roof. They came through the door with the "ping" of spent bullets, and these sharper notes mingled with the long "drone," which blew in from the town of hives outside. They settled on our clothes and wandered over us as if prepared to run amuck at any moment. I had already whiffed two from my piece of comb, and was trying gingerly to evict another, when I caught the old man's amused eye on me. "I hope you're not a coward, friend," he said. I hesitated to confess. "For, if you are, they'll first make you show it, and then they'll sting the life out of you!" He chuckled delightedly, and I "made myself hard" in an enforced bravery. As a result of keeping perfectly still I was not stung, and could soon give myself up altogether to watching the process going on before me.

The two helpers kept bringing in large wooden "frames" of honeycomb, which they hung in a box beside the tin vat or "extractor." The old bee-farmer picked them up, brushed the bees from them with a soft "yucca," and, running a long, thin, razor-edged knife over the comb, dexterously uncapped the cells. Then he slipped the dripping "frames" into a windmill-like contrivance in the top of the extractor. Turning a crank vigorously, he gave a strong, centrifugal motion to the honeycomb "fans" of the mill, and the honey, being new and thin, streamed out on the sides of the tin. "This is harvest-time," said the old man, "and I'm doin' the threshin'." The "frames" of comb, when empty, were feather-light, and of a peculiar frost-like whiteness. In boxes of eight they were carried back to the hives. And all this time the liquid honey was being run off into cans through a straining-tap at the bottom of the extractor.

At about five o'clock they knocked off work. The old fellow turned to me with a friendly gruffness: "So we haven't got rid of you yet? Well, if you'll stick a little longer, and take pot-luck with us, perhaps we can show you some things that'll interest you. Know anything about bees? No? Well, you stay right here till you do. And I'll see that you work for your board, too." I laughed, accepted the invitation with a good deal of pleasure, and walked over with him to a neighbouring farmhouse, where we had supper.

Coming back, he asked abruptly:—"Ever hear of the floatin' apiaries of the Nile?" I had not. "Well, the old Egyptians knew a thing or two about bee-keepin' and they used to put their hives on a barge and follow the spring blossoms down the river. They found if they stayed in one place the honey harvest was at its best for only about ten days or two weeks; but, if they kept on goin' north with the spring, they could get in a good two months of it. Now, along in '84 that was tried on the Mississippi, but it wasn't much of a success, just why I don't know. I *do* know I'm doing it right here, though, and without any river, too. But I've got a railroad, and it's better than the water. Ever notice how the Coe Hill Line runs? No? Well, it starts right down on

the southern lay of Prince Edward peninsula and climbs straight up into the bush and on to the rocks of Central Ontario. It isn't more'n a hundred miles long, but there's a difference of near a month between basswood bloom down on the lake and fifty miles up above here in the barren lands. There's basswood all the way in plenty, too, and I suppose you know that half the honey made north of the Ohio comes from that otherways mighty ordinary flower. I get the first of it in the south and I get the last of it up north ; and this car here"—we were at the siding again—"does the whole business for me. My place is down in the peninsula, and I've three sidin's on the way up to Coe Hill. A two weeks' stop at each, and quick transfers at night when the bees are inside, and there you have it. I've 300 odd swarms now, but I can move them all in two loads. Countin' the dodgin' around after white clover and buckwheat I do, sometimes I move eight or nine times in a summer."

In the extracting-shed he picked up a small combination bellows with a place for a smudge fire in its tin "funnel." Putting a match to the cedar bark in the diminutive fire-box, he worked the air over the spark till he had a good thick smoke. "You see, I'm kind of a lazy, loafin', supreme sovereign with about five or six million subjects. They're divided into what I reckon they think are free an' independent republics, so when I go to robbin' them of the fruits of their labour or interferin' in their little domestic economies, I have to befog their intellects, so to speak ; and this smudge is what I do it with. Come along and see what the inside of the latest patent republic's like."

It was after sundown, but the bees were still going and coming in considerable numbers. He stopped at a hive which seemed to have three stories. After puffing the smoke into the entrance, he lifted off the top, or upper story, and drove the smoke into it, and the open lower part also. The clusters of bees, with a peculiar, low, sleepy buzzing, as if they were going under the influence of an anæsthetic, crawled away from the exposed parts of the hive. "See those downy, lightish-coloured ones? They're the young brood of the tribe. And that honey not yet capped, it's probably all of to-day's gatherin'." The upper and lower "stories" showed themselves filled with heavy frames of comb. "That's all pure honey. The queen-excluders keep the brood and drone comb from being mixed with it ; only the little worker-bees can get through the holes which lead up stairs, as you might say. In the hive itself they can all do as they please, but in these superstructures, or 'supers,' as we call them, they do as I please. And because a bee always starts to work at the top, they pay me my share of the profits first. How much honey do you suppose a good colony will make in a year? And don't put it too low. They work faster'n coral insects, you know. 'Fifty pounds?' Well, I've known a big colony to make that much in three days. However, I'll own that was a good deal more than common. But all I can say is that they keep three of us extractin' steady, and the two supers on some of the hives mean that they're gettin' ahead of us. We've had to give them more comb to fill because we hadn't time to take what they had ready for us. Oh, they're workers all right. If a bee's born in May or June, it kills itself in six or seven weeks ; but if it's born in the fall, it'll live till next summer. And they're hottest after the large jobs, too. Put on a super one-half full of the big comb frames and the other half full of the little one-pound sections, and they won't touch the second till the first are filled. 'The hives are very warm?' Surely. There's anywhere from a thousand to three thousand young bees being born every day, and these are their incubators. And the honey needs the heat, too. That's what cures it."

We walked back to the shed and sat down in the doorway. The darkness had fallen, and a huge, yellow moon had come up and was staring stupidly at us through the trees. The low, murmuring hum from the drowsing hives was like the sound of a "sleeping" top. The air was heavy with the smell of honey. "Sniffin' the basswood?" asked the old man. "Well, it isn't near so strong as it was a few days ago ; it's like turpentine when they first get it. But it cures up all right, and then there's no other honey in the world can touch it. You stand under the first basswood tree you come to to-morrow, and take a good whiff of it while it's still in the flower. And you'll be ready to swear, too, that there's a whole hive of bees in that tree. I've tried to get the farmers up here to grow basswood and take to bees. I've given away any number of swarms, and patent hives with them, too, to get them started ; but it doesn't seem to do much good. Half of them'll tell you that the bees destroy the fruit by gettin' into the blossoms, and their wives'll take their oath that their flower-gardens have had all the life taken out of them since I got to bringin' my colonies up here ; that's about the general idea of the fertilisin' process. And then all the other fool notions they have about bees! They say they're afraid of snakes, and that some colours'll drive them crazy, and that a colony'll get nettled and won't do any more work if there's a death in the family, and they're not told of it. And then they'll tell you what onparalleled fine bees there were in Scripture times: ain't ever been bees like them since! Just as if we weren't gettin' the same stock, the Syrians, to-day! I've had them, and could get you any number of swarms in two days' notice. But the Italians I have here now are up an' away better'n them. With agencies of American bee-men wherever there *are* bees, there aren't many sorts you can't

get now. I've had them from the Alps, Hungary, Cyprus, Tunis, Mount Lebanon, and twenty places besides. Last summer down in Prince Edward I happened in with a college professor—he teaches Greek in T. University—and he began to tell me what wonderful honey they got from Mount Hymettus. Well, I told him the Hymettus honey could be bought in New York City any time, and what was more, I could buy him the Hymettus bees there, too. Well, that tickled him right down to the ground. He had to have a swarm, sure. So I got him a skep and the whole outfit for a patent super-and-section hive. And I gave him a list of the books to read. Well, if I can judge by the letters I've had from him, he's had pleasure and honey both onlimited out of that swarm from Mount Hymettus."

A. E. McFARLANE.

NON-SWARMING BEES.

To the man who desires to make the production of honey, more especially comb honey, his sole business, there appears one serious drawback; one difficulty that perhaps makes as much extra labour as any one thing connected with the business. I refer to the disposition of bees to swarm. While it may not be the most hopeful field of endeavour in bee-keeping, I believe that the person who succeeds in solving the swarming problem in working for comb honey, without caging the queen or weakening the colony, will be entitled to immortal fame, at least among bee-keepers, and will be bestowing a boon on bee-keepers equal to the movable frame hive. With no swarming to watch for, the bee-man could locate several apiaries, and produce enough honey with his own labour to bring him a good income, even with honey selling lower than it does now.

Of course, we might produce extracted honey, but were everybody to raise extracted honey there is no telling where the price would go. I know by experience in selling honey that a great many people won't use extracted honey at all. There is an attraction about nice comb honey that appeals to the eye, and what looks pleasing, tastes good.

I believe the most hopeful field for commercial bee-keeping lies in the improvement of the stock, in the direction of non-swarming. There are some strains of bees not so much addicted to swarming as others. Take such a strain and use every means available to prevent swarming, breeding always from colonies that are not inclined to swarm, and I believe you will, in time, have a non-swarming strain of bees. Bees have, in times past, been bred mostly from the worst swarmers; it is the easiest way to get good queens and increase for those who do not make a business of bee-keeping; but I think the time is coming when those making a business of bee-keeping will reverse this practice, and breed from those that *don't* swarm. Now, I will have to plead guilty to the charge of breeding from swarming colonies myself. I was, like all beginners, anxious for increase, and glad to have them swarm. I soon saw, however, that colonies that did not swarm were a good deal the most profitable in honey; so I have reared a few queens from some that did not swarm and they were way ahead of the average bees. The worst year for swarms that I have seen, about one-third of mine run for comb honey did not swarm. Other years I have had from none to eight or ten swarms from thirty to fifty colonies. But each season the bees have to be watched, and this watching is what we want to do away with.

There are many plans of dividing and uniting in the fall and thus keeping down increase after a fashion, but we want the whole force of one queen to stay together through the honey flow in order to get good crops of fancy comb honey.

How to do this without any one on hand to watch for swarms is, in my judgment, the greatest problem now before the bee-keeping fraternity.—E. S. MILES, in *Bee-Keepers' Review*.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

AMATEUR (Forest Hill).—*Bees in Hollow Wall of Garden.*—It is much to be regretted that you have delayed action with regard to securing the bees till so late in the year. However, as the hollow-wall space is only about 6 in. and "draughty," owing to holes and chinks, there does not appear much chance of the bees surviving the winter if left unfed, and with no means of keeping them fairly warm. We should, therefore, choose the first fine day, remove a few of the bricks, and again "investigate" as you did in the summer. If food is plentiful and the bees look dry and are fairly numerous, let them take their chance till March next. If not, and combs are large enough to tie into frames in the ordinary way, when transferring, make a "transferring" job of it, and, by giving warm food for a few days, then soft candy, the bees may be nursed into a stock in a frame-hive. Much will, of course, depend upon the skill and care with which the task is carried out, so far as ensuring success; but since you can, as stated, "take part of the wall down," it is not by any means a hopeless task.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER. — Fortunately for bee-keepers the weather of December is a matter of small moment so far as it affects the now half torpid inhabitants of our hives. All through the past month of November we have experienced an almost continuous round of dull, cold days, with plenty of rain and scarcely a glimpse of sunshine. Consequently the sight of a bee on the wing was rare throughout the whole of the time. Nor does the prospect look more cheerful as we look ahead. Christmas is near at hand, but the weather shows no sign of winter, only the same repetition of dull dampness and general chilliness, which renders outside bee-work impossible, and prevents any possible chance of making up for lost time in attending to operations which should have been completed six or seven weeks ago.

That a good many of our readers (beginners, of course) have, from various causes, allowed their bees to go up till now less than half provisioned for the coming winter is quite certain, and in reply to inquiries still reaching us for directions how to ward off possible starvation from lack of food, we can only advise one of two things, *i.e.*, either to give a couple of frames of comb containing food from overstocked hives, or failing this to provide a constant supply of well-made soft candy, on which latter food the bees may live as long as possible before the lower temperature compels them to feed only from such spare stores of sealed honey as they have in the hive and are clustered on.

In order to keep them feeding upon the candy as long as possible care must be taken to conserve the warmth of the cluster by using plenty of warm coverings packed down on all sides as closely as possible. This precaution well carried out, and giving candy quite soft and smooth in grain, renewed as often as consumed, will sometimes carry a colony safely through the winter without encroaching on the sealed food in the combs at all. But in no case should syrup-food be given at this season.

As time goes on, and real winter comes with hard frost and snow, the less bees are disturbed the better. Nothing is needed beyond an occasional glance to see that entrances are free from dead bees for the next three months at least.

CANE SUGARS FOR BEE-FOOD.—The present feeling of alarm roused in some parts of the country, by the agitation in the press, on the subject of arsenical poisoning through drinking beer in which sulphuric acid has been used in the process of manufacture, will, of course, possess no special interest for bee-keepers beyond other folk. Any discussion of the subject in our pages would therefore be undesirable and out of place; but, in view of the steady insistence with which we have emphasised the importance of using only pure cane sugars in the preparation of bee-food, it is interesting to note that chemicals used in the manufacture of beet sugars, which we have so long declared to be injurious to bees, are now found to be in a still greater degree harmful to human beings.

In this connection we may mention that a correspondent has just forwarded a cutting from a London daily paper, headed "Beet Sugar and Arsenic," from which we learn that "in course of manufacture of the white granulated grades of sugar now becoming increasingly popular, considerable quantities of sulphuric acid are used, not only in cleaning vacuum pans, &c., but during the process of 'curing' in order to 'wash' the sugar white, and give it the 'bloom' which is a *sine quâ non* in the markets.

A large quantity of Continental beet sugar is now being made in imitation of 'Demerara' cane sugar, and our correspondent declares that inquiries will point to an increased use of 'commercial' sulphuric acid in the manufacture of such inferior cheap sugars.

BEE-KEEPING AND BOARDS OF AGRICULTURE.—The promotion of bee-keeping by means of Government grants is being strongly advocated by the Irish B.K.A., and although we are not in a position to say how far the "scheme," briefly referred to on page 465 last week, is likely to meet with approval by the newly-established Board of Agriculture for Ireland, it is not too much to suppose that some assistance will be given in the direction indicated beyond that at present afforded by the Congested

Districts Board. That such help as is moderate and reasonable will be granted for the purpose of promoting a hitherto neglected industry like ours, every reader will heartily join in hoping; but in expressing this wish, bee-keepers in our part of the Kingdom can hardly avoid comparison between Ireland and England in the matter of grants in aid of the bee-industry.

Everything on this side of St. George's Channel in the shape of help to bee-keeping from public funds must be got through the County Councils, and these bodies (with a few notable exceptions) are known to exercise scrupulous care, often amounting to niggardliness, in expending a few pounds per annum in the promotion of apiculture. The small pecuniary assistance afforded is in many cases employed in a way that does not commend itself as being the best possible, while the burden of proving the advantages of bee-keeping to artisans and rural labourers is left to our bee-keepers' association. Nor must we overlook the fact that these latter are supported in a great measure by the benefactions of members who have no personal interest whatever to serve. This is the side of the case which all County Councils might reasonably take into account in dealing with the funds at their disposal for the furtherance of technical education. And if, as seems likely, the Board of Agriculture for England consider the subject too small for the attention of so august a body, we might at least hope for somewhat more uniform liberality from Technical Instruction Committees of our County Councils than is at present afforded.

BEE-DISEASES.

BY DR. WM. R. HOWARD.

Read at the Bee-keepers' Convention, Chicago, August, 1900.

In 1881 and 1882 I undertook the investigation of bee paralysis and dysentery. As laboratories for original research were then crude compared with those of the present day, my success was not pronounced. Since I have been better equipped with laboratory appliances, and become better acquainted with the technique necessary for such investigations, I have again partially investigated these diseases.

In dysentery I have succeeded in finding several forms of fungi and water bacteria, none of which were isolated or determined; neither were the experiments made with cultures capable of reproducing the disease in prosperous colonies. I have quite a number of times repeated these experiments without arriving at any satisfactory conclusions. I have found as many as a dozen forms of fungi, besides numbers of algids, water bacteria, &c., growing in cultures made from bees of a single colony; this, at first, was somewhat strange, but further investigation showed that the pollen (bee-bread) found in these combs furnished many of the same forms which, on suitable media, grew luxuriantly. Cultures made from the excreta and body contents gave similar results.

Here allow me to mention a point worthy of attention, since it has been taught and is very generally believed, that old bees do not consume pollen when in a normal state; that they may be successfully wintered without it; that they do not require it except for brood-rearing, &c. I have always found more or less pollen in the stomach of all bees, both old and young, whether suffering from disease or in a healthy condition. I have always found pollen more abundant in the bees during confinement, especially in the spring months, but I have examined them during all the months with the same results. Climate may have something to do with it, as bees here are usually not confined over a week at a time during the winter months. In all bees suffering from dysentery that have fallen under my observations they have had an abundance of pollen, heavily charged with various forms of fungi in their excreta.

These outbreaks of dysentery usually follow a period of activity closed with a few days of confinement, on account of showers or cold weather sufficient to prevent daily flying. Frequently pollen has been gathered from flowers upon which the rain has fallen; this may have had fungi from the branches of the plant or tree conveyed to it by the rains.

The warm, wet weather of spring starts to life thousands of forms of microscopical animal and vegetable organisms. Trees, plants, ponds, pools, &c., become literally alive with groves and swarms. Through the water many of these forms find their way to the hives, bringing about unsanitary conditions, which, to a greater or less extent, influence the general health of the colony, giving rise to spring dwindling and possibly dysentery, paralysis, &c.

I have seen bees badly affected with paralysis and dysentery cured in a few days by feeding with artificial pollen and pure water in the hive, when the weather was too bad for bees to fly; or fed in the open air when the weather was fair. Good water, plenty of honey in the field, fresh pollen, and hygienic environments will generally put an end to paralysis, dysentery, and pickled brood.

Apiaries should be so arranged and located that plenty of sunlight and pure, fresh, dry air

could circulate through them; the floor-boards of hives should always be dry, even on the underside; many harmless moulds and mildews spring up in the presence of heat and moisture, some grow in the dark better than in the light, many spores are carried into the hive and find a suitable medium in which to grow. High weeds and grass should not be allowed to grow about hives, neither should the shade be so dense that a few hours' sunshine could not dry the ground.

Cheshire found the cause of some of these diseases to be a bacillus which he isolated. I have not been so fortunate as to isolate a single species that would infect a prosperous colony with paralysis or dysentery. In fact, during a good honey-flow, with a prosperous colony and proper sanitation, it will be found a difficult task to infect such a colony with any disease and obtain immediate disastrous results. The most infectious, and one that is always present and more or less visible, is foul brood. Black brood, pickled brood, dysentery, and paralysis all disappear during a good honey-flow and hygienic surroundings; to this common-sense principle the "McEvoy method" owes its success.

Much has been said in conventions and written for journals on paralysis, yet little is known as to its cause. I have not had the time at my disposal to make a thorough analysis of this disease, but will give some of the results obtained. It appears, at first, as an indigestion; dissection shows obstruction in the way of casts of pollen and fungi in the true stomach and intestinal tract; there seems to be an enlargement, as if engorged, of the tubules corresponding to the urinary apparatus of higher animals—a general displacement of the internal organs is common. The mycelia, or threads, of various fungi are found in the uriniferous tubules and air-passages of those dead from the disease. All of these bring me to conclude that when an individual bee has a bad case of paralysis nothing would cure it, and that it might be worthless if cured. What is usually meant by curing all diseases among bees] is stopping the infection from spreading to new individuals and not individual cures.

In dysentery dissection shows a dropsical condition, an extra amount of fluids in the circulatory system, fungus and pollen casts in the excretory organs, and in some cases a great amount of liquid in the alimentary tract.

In pickled brood the adult bee is rarely affected; in the larva and pupa much the same conditions are found as in the adult bee in dysentery, and I have known pickled brood to follow dysentery and finish the destruction of the already decimated colony. In this, which is strictly a fungus disease, the attack seldom occurs before the bees feed off pollen, yet I have sometimes found it earlier in larval life, where the disease had raged previously. Combs which have had any disease, whether of a fungus or bacterial nature, are never entirely free from the infection; while many cells may be free and safe, yet, as a rule, there always lurks spores capable of reinfection. Nearly all bee-bread contains fungi of various forms which are gathered with it, but which are unimportant, as they do not grow except upon the leaves of plants, grasses, &c., and are incapable of producing disease.

In the two colonies which were used for experimental purposes last spring, in which black brood was well developed and thoroughly established, the disease entirely disappeared during the spring honey-flow from horsemint; they became strong, and one swarmed, giving off a good swarm, which was placed in one of the hives on the infected combs left after the death of the colonies used last winter in experimenting with this same black brood.

In order to make a more severe test on a new swarm during a good honey-flow, I used a sufficient number of all the combs sent from New York last fall to fill a frame, transferred these to the centre of the brood-nest, and watched the results. The combs were all thoroughly united and cleaned, and no disease occurred in this hive. A cessation of the honey-flow in the latter part of July came, and the disease reappeared, so that on August 1 quite a number of both larvæ and pupæ were found diseased. The fall honey-flow came in about this time, so that on August 20 no sign of the disease was present. The disease recurred in one of the colonies used last spring—not the one which swarmed nor in the new swarm.

In this disease the first germ-growth appears in the ventriculus, which, in the larva, is a blind sack, which, on account of the sedentary life and liquid food provided, is not a fully developed alimentary canal till late in pupal life. There is no evidence of solid excreta until after the bee is hatched and begins to take food. In the larvæ the stomach (ventriculus) appears distended with pollen-grains, partially digested pollen atoms, chyle, a few fungi, bacteria, &c. The urinary apparatus, which develops early in larval life, appears engorged, sometimes colonies of bacteria are found within them. Much distortion and faulty development result from arrest of nutrition to the internal organs; there is a general abnormality of the glandular structures from faulty development. These developmental errors are due to the influence of the poisons elaborated by the bacteria in the digestive organs. In many examinations I have never been able to find growths or scattering bacteria in the dorsal vessel—which is the heart of the bee—or in any other parts of the vascular system.

In foul brood, if the egg has been deposited in a foul cell, when the food comes in contact with the infectious material, a suitable media is formed for the growth of the germ, and bacterial changes in the food destroy its nutritive qualities, and the young larva dies of starvation or from the effects of the poisons. Where the egg is deposited in clean combs,

and the infection reaches the brood through the food, growth of brood continues until the infectious growth changes the nutriment, produces poisons, and death results. The brood may continue to the pupa state, and death may take place after casting of the pupa skin, just before the bee is ready to emerge as a perfect insect. The fact that the alimentary tract is not a fully developed passage until the perfect state is reached may influence to some extent the virulence of the infection, and be held to explain why diseases which belong to the larval and pupal states do not infect the perfect state.

I have been unable to find any valid evidence for holding queens responsible for, or that they have any influence upon, the perpetuation of any disease with which I am acquainted. Cheshire's statement of finding the *Bacillus alvei* in the undeveloped egg, in the blood of the queen, in spermatozoa of the drone, &c., has not been verified in this or in any other instance, so far as I am aware. He cites as a parallel case the silkworm disease, which was once so destructive in France. Bechamp, who was first to investigate the case, gave quite a lengthy detail of his investigations. Here is what he says that led Cheshire to quote him :—

"The microzyma multiplies in the interior of the moth, developing with its growth so that the infected moth is unable to lay its egg without depositing the spores at the same time, and thus exposes the young grub to attack as soon as it is born."

Bechamp nowhere states that the miniature ovum, or undeveloped egg is attacked. Again, this is not a parallel case, inasmuch as the silkworm larva partakes of much solid food, voids solid excreta, is active, chooses its food, &c. ; while the female moth lives but a few days, deposits thousands of eggs regardless of surroundings, and partakes of little or no food during her life.

Let us follow the undeveloped egg from its beginning to its deposition and we shall see where the infection comes in contact with it.

The egg at first is a microscopical atom in the ovary answering to the ovum of higher animals and subject to the same developmental changes ; its growth begins under certain stimuli, and we now see it as a shapeless mass of apparently homogeneous matter, containing certain microscopical and chemical elements in the minute channels of the ovary ; as it continues to grow we find it in the larger channels, and finally the surrounding conditions to which it is subjected induce condensation of the peripheral zone, whereby the definite form is greatly favoured ; this progressive condensation is productive of a distinct limiting membrane ; here, by high amplification, we discover the micropyle (little gates), or open pores, through which spermatozoa enter the interior of the egg for the purpose of fertilisation. Now, passing the gate whose opening leads to the seminal receptacle or spermatheca, it receives the seminal element, which later results in fecundation ; passing now into the still broader channel—the oviduct—it comes in contact with a liquid secretion called "chitine," which appears at first of a gelatinous nature, but which soon hardens, forming the shell of the egg. In this chitinous fluid we may meet the infectious germ, but this is the only place we may reasonably expect to meet it. This gelatinous fluid serves to fasten the egg to the base of the honeycomb cell. If the infection were to depend upon the transmission by the seminal elements, what must be the condition of the seminal receptacle or spermatheca during the long life of the queen ?

It may be a puzzle to some how such definite conclusions are arrived at, such as locating germ growths in the uriniferous tubules, malformations of glands, relative position of organs, &c. No better way can be found to explain this than to send with this sections of a larva and of a pupa. These sections are about $\frac{1}{500}$ in. thick—much too thick for bacteriological study, so I send two or three sections about $\frac{1}{1000}$ to $\frac{1}{1500}$ in. in thickness. Serial or ribbon sections show the position very accurately of the organs, thickness and all. I have sections of bees of all ages and conditions.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

NOVEMBER, 1900.

Rainfall, 3·03 in.	Sunless Days, 8.
Heaviest fall, ·41 in., on 24th.	Below average, 6·9 hours.
Rain fell on 21 days.	Mean Maximum, 48·9°.
Below average, ·53 in.	Mean Minimum, 38°.
Maximum Temperature, 55°, on 1st.	Mean Temperature, 43·4°.
Minimum Temperature, 27°, on 23rd.	Above average, ·4°.
Minimum on Grass, 16°, on 11th.	Maximum Barometer, 30·46°, on 18th.
Frosty Nights, 5.	Minimum Barometer, 29·00°, on 29th.
Sunshine, 63·6 hrs.	
Brightest Day, 10th, 6·1 hours.	

L. B. BIRKETT.

Correspondence.

*** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4158.] There are many items of interest connected with bee-keeping that may be discussed during the winter months, notably foul brood and the best methods of clearing or

stamping it out. We might also profitably discuss the best method of disinfecting hands and appliances used in manipulating hives; and the clothes of those whose duty it is to visit apiaries in connection with county association work. I remember the subject was suggested by our esteemed friend "S. Devon Enthusiast," in an interesting letter some months back, but since that time the matter has been allowed to lie dormant. I think the present dull season for bee-keepers would be an opportune time to revive the subject and see if it is possible to formulate some well defined plan. Perhaps our "experts" who do the spring and autumn tours for various bee-keepers' associations will each give us their *modus operandi* and, at the end of the symposium, our Editors might sum up the matter. This, I take it, would be an interesting study, and perhaps our friend Mr. H. W. Brice will be induced to enlarge on the subject of disinfectants and their value? Then another subject of real interest to bee-keepers would be the practical value of non-swarming hives. Those of your readers who have worked these hives in their apiaries side by side with the older styles might kindly give us a few facts—plain, unvarnished—regarding their utility or otherwise, thus rendering a service to the craft at large and to beginners especially.

We might also have some useful discussion on the best and easiest method of rendering old combs into wax from the pens of those who are experts in the art, such as Mr. W. H. Seymour, Mr. Jno. Berry, and other prize winners in the wax classes at our shows; while another most interesting and suitable subject for ventilation would be the various methods of making honey-cakes and confectionery with the recipe of the ingredients in which honey is used. In a word, every endeavour should be made by bee-keepers to open up outlets for honey because in the manufacture of confectionery some of the darkest-coloured honey would equal that of the finest and lightest colour provided the flavour was fairly good. I consider that, with full and free publicity on this subject in the many periodicals circulating among the masses it ought to provide an outlet for a very large quantity of honey of good quality but not quite so attractive for table use.

The weather has been very unsettled during the month of November, and, though moderately mild for the season, it has only rarely given an opportunity for bee-flights. On two or three warm afternoons, however, I have seen the bees carrying in pollen, evidently gathered from a field of wild mustard just outside the apiary. Those who have neglected to make their hives rainproof ought to attend to the condition of the coverings of the brood-frames, as if we get cold frosty weather the poor bees may be frozen. The final wraps and cushions having been placed on hives, and the customary cake of candy given to those colonies which are not over well supplied with food, the roofs secured against gales in exposed positions, the bees may be left till the new century enjoying a well-earned rest, hybernating the old year out and the new year in. How different to the bee-keeper in Cuba; there it is all bustle in the apiary, seeing that the bees are now busy securing the principal honey harvest of the year, viz., from November till February. Our bee-keeping friends in Cuba are, however, beset with manifold difficulties — transit of the produce to the coast on ox-waggon or horse-back, foul brood in devastating form, ants, mosquitoes, and fleas! Mrs. G. E. Moe says the three last-mentioned are no "dreams," but, for those who can rough it in a tent and keep their bees healthy, the reward comes in an abundance of white honey of fine quality during the winter months. The bulk of the honey goes, she tells us, to the German markets. Here we have our wintering difficulties; there, it seems, they have their "summering" difficulties. "No rose without a thorn!"

Honey Sales. — The demand still grows, rarely a day passes but inquiries come to hand for comb-honey, and this before Christmas! The query arises ought prices to advance? Will others who make a speciality of comb-honey give their opinion on this matter?

The "Basingstoke Bee Case" should, in my opinion, be kept to the fore, and a fund for "defence" in future cases ought to be started. Any sums subscribed in aid of such a fund could be invested in the names of, say, our Editor and Mr. Till as trustees. Who will undertake the secretarial duties? and who will volunteer to form the committee of management?—W. Woodley, *Beedon, Newbury.*

EXHIBITING AT HONEY SHOWS.

AN EXHIBITOR'S SUGGESTIONS.

[4159.] Referring to the monthly meeting of the British Bee-keepers' Association, reported in B.B. Journal of November 22 (page 455), and as our Editors are members of the Council, I should like to draw attention to the schedule of coming "Royal" Show at Cardiff in June next year (if not too late) with reference to the class for extracted heather-honey in jars. It is well known that this class, as now staged, is usually a mixed-up lot, not very pleasing to look at, through the greater part of it having been heated in order to bring it to liquid condition, while the remaining portion is left in granulated condition. I know that many bee-keepers besides myself would like to see it plainly stated in schedule whether the honey should be staged in liquid or in granulated form. We could then stage it in the condition most approved by the B.B.K.A. I staged an exhibit of heather-honey at last "Royal" which had taken several first prizes at good shows, but it was entirely unnoticed by the judges at the "Royal"

Show at York, I suppose on account of its being granulated; at least, I can account for the adverse verdict in no other way. At another "Royal" Show I took the first prize with granulated heather-honey, and I therefore will feel obliged if the matter could be brought before the Council so that exhibitors will have a fair understanding of the case and stage their exhibits accordingly.

While on the subject of exhibiting I would like to add a word on the treatment of exhibitors by some secretaries of honey shows. I think that when an exhibit is sold at any honey show it would not only be very nice, but very satisfactory from the business point of view, if the secretary would drop a post-card to that effect. I say this because an exhibit may get lost, and the exhibitor, in consequence of hearing nothing and not having had his honey returned, naturally concludes that it has been sold, and so leaves the matter for months, perhaps, without making inquiry. An instance of this sort of thing has just reached me to-day as follows. I sent an exhibit of honey to the Industrial Exhibition held at Edinburgh on October 17-20, and put a selling price on it. I heard nothing definite about it till to-day and had for some time thought that the honey had been sold, but as neither honey nor cash turned up I wrote the secretary to ask if my exhibit was sold, but got no reply. I then wrote the second time, and enclosed a stamped postcard for reply, but still to no effect. Last week I wrote again for the third time, and to-day I got a reply as follows:—

"DEAR SIR,—Your letter received. I have pleasure in enclosing you 2s. for your honey. There was some broken, and I kept the rest to myself. Trust this is satisfactory.—Yours, &c."

I think you will agree that this is not very encouraging. If "some" of the honey-jars were broken I might have claimed from the railway company for it, but, you see, I had no chance, besides having all this delay and unnecessary trouble, to say nothing of sending me the sum of 2s. for six jars of first-prize honey. I do not think that I will trouble future shows of the society referred to again with my honey. And I conclude by saying if secretaries would drop a postcard when honey is sold we could look into it in time.—JNO. BERRY, *Llanrwst, North Wales, December* 1.

THE "W.B.C." UNCAPPING KNIFE.

A NEW USE FOR IT.

[4160.] I have, I think, found a further use for the "W.B.C." knife, beyond the original one of uncapping combs. In dealing with combs partly "pollen-choked," but otherwise good for future use, it is, I presume, usual to cut out this part entirely, *i.e.*, both side-cells and the mid-rib, making a complete hole in the comb so filled. Now this has, it seems to me, two objections, one being that the bees have this "hole" to fill up and make good, and the other that when the frames are "wired," in detaching the part cut out the whole comb may be more or less loosened, thus making still more work for the bees in refastening.

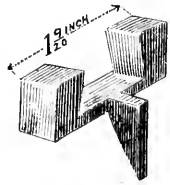
It occurred to me that it would be an immense advantage if the cells could be cut away, leaving the base or midrib intact, which latter would then serve as foundation when again used. Having often found out how difficult it was to cut away these pollen-filled cells by ordinary means, it flashed across me that the turned-up point of the "W.B.C." knife was just the thing for the purpose, and on putting it to the test I found it to answer admirably. I had by me a comb with about 2 square inches of its cells packed with pollen right across the middle and I was able to cut the cells from both sides, leaving the midrib untouched. This plan is of even greater advantage where the pollen is only stored on one side of the comb.

I found it handier to hold the knife short, that is, by the blade, which can have paper rolled and tied round the straight part to make a handle close up to the bend.

If you think this worth submitting to the general body of bee-keepers, they will no doubt soon find if there is any utility in it.—T. W. WHITE, *Clapton, December* 3.

SPACING FRAMES.

[4161.] With reference to Mr. Varian's letter on spacing frames (4156, page 468), I think he is like our American friends in this respect, *i.e.*, a bit behind-hand. The idea of driving nails and staples in the top-bars and sides of frames is an old and worn out idea in this country. It is also familiar to all your readers that a metal "end" has been made in this country for nearly twenty years past, by several manufacturers, with a projection pointer, or lug, on its underneath side which spaces the frames at the correct distance from the hive and also keeps them at the orthodox distance apart. The "cut" shows the original form. The great majority of Americans, I believe, use no spacers at all on their frames, but simply space them with eye and fingers.—E. H. TAYLOR, *Welwyn, Herts, December* 1.



QUEENS FLYING IN NOVEMBER.

[4162.] The letter of your correspondent "Weyside" referring to queens taking a flight in November (4147, page 458) makes me think they sometimes do take a flight at this time of the year, when egg-laying is discontinued, more often than most people think. Last week, in the course of conversation with

a bee-keeper owning a good many hives, he told me that in the first week of November he had noticed a queen on the ground beneath one of his hives, surrounded by a few bees. They were occupied in feeding her at the time, and on being lifted up and laid on the flight-board she ran into the hive, apparently none the worse for being outside, though but for the timely help of the bee-keeper it might have been a mishap.—R. GODSON, *Tothill, Alford.*

TEACHING BEE-KEEPING IN SCHOOLS.

[4163.] During my next school year I propose taking up "Bee-keeping" as a subject of instruction in my first class (boys and girls aged ten to thirteen). Personally, I have had no experience in the subject practically, and very little theoretically, but I think that bee-keeping, together with poultry-raising, should receive more attention in our country schools than at present.

I have arranged with a neighbouring farmer —who has a few hives—to obtain a little insight into the practical side of the subject; though he has himself had very little real experience of bee-keeping.

I thought, perhaps, some readers would be kind enough to suggest books or illustrations, &c., which would be helpful to me in carrying out the idea mentioned. My desire is to treat the matter as interestingly as possible, and in a manner likely to secure the attention of children.

Trusting I am not imposing too much upon your valuable time, and thanking you for any information or advice I may receive upon the subject.—"D. L. H.," *A Headmaster, Gravesend.*

FUGITIVE PAPERS

ON ANCIENT BEE-BOOKS.—No. 5.

[4164.] The title I have given to these papers shows that I do not feel able to make them a complete review of all the books published in days gone by, because I do not know if a complete list of them has ever been compiled. Certainly I do not profess to have seen them all, and I therefore make no apology for skipping over fifty years before reaching the next book to which I have access, namely, from the first publication of the "Feminine Monarchy" in 1609, to that of "A Theatre of Politicall Flying Insects" in 1657.

Yet it is clear that during those fifty years the science of bee-craft had not stood still; for this book not only refers many times to Mr. Butler's, sometimes with approval, and sometimes to call in question certain of his ideas, but it alludes to several other books as well.

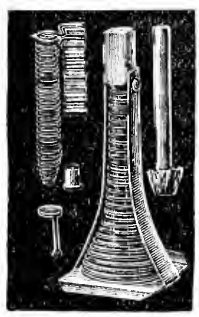
Some of these may still exist, and it would be interesting if any of our readers could help to throw light on them, and thus assist in compiling a list of all bee books published in Great Britain and Ireland. To attempt to include those published abroad would, at any rate at present, be too ambitious a project. The literature of bee-keeping in our own language deserves attention, and we might form a bibliotheca, or list of books with their various dates, which would show more completely than these "Fugitive Papers" can do the progress of our art. The following is a copy of the title-page of the book I am now noting, "A Theatre of Politicall Flying Insects wherein Especially the Nature, the Worth, the Work, the Wonder, and the Manner of Right-ordering of the Bee is Discovered and Described, Together with Discours Historical, and Observations Physical concerning them." And in a second part are annexed "Meditations, and Observations Theological and Moral, in Three Centuries upon that Subject. By Samuel Purchas, Master of Arts, and Pastor at Sutton in Essex. Entered according to Order. London: Printed by R.I. for Thomas Parkhurst, to be sold at his shop at the Three Crowns, in Cheapside, over against the Great Conduit, 1657."

It is wonderful to think that this book now before me dates back before the Plague and the Great Fire of London, and that perhaps some copies exactly like it perished in the flames which consumed the Three Crowns and swept along Cheapside. Mr. Purchas was evidently a man of great learning and wide reading, for the references he makes, not only to bee literature, but to the classics and books of travel, &c., of his own day are excessively numerous. In this way I get the names of authors otherwise unknown to me. They are:—Mr. Hill, "Treatise of Right Ordering Bees"; Mr. Remnant, "Discourse of Bees"; Mr. Musset, "Theatrum Insector"; Mr. Googe, "Book in Treatment of Bees"; Mr. Levit, "Ordering of Bees"; Mr. Lawson, "New Orchard"; and Mr. Southerne. As to the dates of these, I am in a difficulty. Some of them, apparently, were even prior to Mr. Butler's "Feminine Monarchy," from the following quotation:—"The Knowledge of Bees was never truly communicated to the World by any but by English men. Mr. Southerne brake the ice, then followed Master Levit, who wrote more than fifty years since: though he was published long after Mr. Butler. Mr. Levit, I say, not the Father of the publisher, but the Grandfather (perhaps his Grand-child knew not so much) and I question not but Mr. Butler was acquainted with his Book, for it was in divers mens hands, though not printed. After him Mr. Butler wrote singularly wel, although in some things defective and no question but after Ages may adde more." This quotation gives us the approximate date of some of the writers, but among them all, the standard authority when Mr. Purchas wrote was evidently our old friend Mr. Butler, the author of the "Feminine Monarchy."—A. A. H.

Queries and Replies.

[2557.] *Removing Queens when Handling Frames.*—1. Will you kindly inform me in next issue of B.B.J. in what way to remove the brood-frames from a hive so as to run no risk of losing the queen while doing so? 2. Should the queen be caught and returned to the hive afterwards, and if so, in what way should I secure her? Will she remain on the frame so that I shall be able to pick her off? I have a hive that I believe is at the present time queenless through my not securing her when I took the frames away. 3. What is the best thing to do with the queenless hive referred to? and how should I proceed another time to avoid such mishaps in the future? 4. Is it of any importance which way the frames hang in a hive? I mean whether they should run from front to back or from side to side of the entrance. 5. Also, does it make any difference whether cane or beet sugar is used for making bee-syrup or candy? If you can advise me on these several items I shall be most grateful.—P. Creek, *Toft, Cambs.*

Reply.—1. The *safest* way when removing frames from a hive is to find the comb on which the queen is seen, and select others for removal. 2. You can "pick the queen off" if you know how, but this operation, although a simple one to a practised hand, is less so for a novice in the craft, who, if at all nervous, may do very serious—if not irreparable—damage to the colony, either in catching the queen with the fingers or in holding her safely in the hand without injury when caught. This trouble arises from the difficulty of holding in one hand a comb crowded with bees and in the other so tender a subject as a queen-bee, each of which items requires careful handling in different ways, but both very "touchy" withal. One plan of picking off the queen-bee from a comb prior to caging, and the method of holding the frame while doing it (especially intended for novices), is illustrated on page 135 of the "Guide Book." But there are several other plans available, a useful one being that described in "Novelties for 1899" (page 206, vol. 17). The largest figure in "cut" here inserted shows the queen-catching device sent out by Mr. Meadows, who claims that it is much safer in catching a queen than the usual thumb-and-finger method, even in the hands of experts, as queens may be caught and transferred to wherever wanted without touching with the fingers at all. 3. It is unfortunate that the mishap to queen was not discovered earlier, for the queenless bees are of no use whatever as a separate colony. They must therefore be united to another and contiguous stock. The reply to second query deals with avoiding such mishaps in future. 4. Most bee-keepers use hives with frames at right-angles to entrance, but others prefer the other or "parallel" position. 5. Beet sugar is injurious to bees, especially as winter food (see page 475.)



[2558.] *Improving Colour of Beeswax. Licence for Honey-Selling.*—Would you kindly advise me on the following through the B.B.J.:—1. When rendering wax I allow it to run out of extractor into a small bath of water holding two gallons. How much sulphuric acid may I safely add to this quantity of water in order to improve the colour of the wax? 2. Is it necessary to obtain any *licence* in canvassing honey from door to door? I have heard that it is necessary to pay a certain toll in various towns. Do you know if this is so, and the nature of the toll, and to whom it should be paid, and also amount?—W. P. Smith, *Chichester, December* 1.

Reply.—1. We do not care to advise the use of chemicals in clarifying beeswax, preferring the ordinary method of cleansing as far as possible by running the melted wax into clean water, and scraping the discoloured portion that gathers on the underside of the cake when cold. For those who prefer the method in above query we insert the following method of refining wax and improving its colour from a former issue of our Journal:—Take ½ oz. of the best roll annotto, cut it into thin pieces, and put it in a clean copper or enamelled vessel with a pint of water, and boil it until it is perfectly dissolved; then add 14 lb. of melted wax and continue the boiling until the wax has taken up the colour and the greater portion of the water has evaporated, then, withdrawing the heat, carefully sprinkle over its whole surface about half a fluid ounce of sulphuric acid; attention must be paid or it will froth up and boil over. The melted wax should now be covered and left for some hours to settle and cool slowly, care being taken not to disturb the sediment. All the impurities will be at the bottom of the cake and should be scraped off. 2. We have never heard of a pedlar's licence being required for selling honey, as stated, nor do we think there is any need of such, more than a farmer's wife would need a licence to sell her butter or eggs.

CUTTINGS FROM THE PRESS.

Bee-keeping in Old Days.—Not every bee-keeper is aware, I fancy, that the old style of smothering the bees about Michaelmas, which is still practised in many English villages, was discredited by some country folk a century ago.

Arthur Aikin in his "Natural History of

the Year" (an enlargement of another work called the "Calendar of Nature," by Dr. Aikin), says :—

"It is usually in October that the beehives are despoiled of their honey. As long as flowers are plentiful the bees continue adding to their store; but when these fail they are obliged to subsist on the produce of their summer labours ; from this time, therefore, the hive decreases in value. Its condition is judged by its weight.

"The common way of procuring the honey is by destroying the industrious collector of it with the fumes of burning brimstone.

"This cruel necessity may, however, be prevented by using hives or boxes so contrived as to exclude the bees from the different partitions as they become filled ; or by employing fumes that will stupify without killing them.

"In this case enough of the honey must be left for their subsistence during winter ; but this is found to deduct so materially from the profits, as—in a pecuniary point of view—to render it a much less eligible way than the usual one."

Aikin wrote this rather more than one hundred years ago. I am afraid our villagers are not what you would call progressive in their bee-keeping methods.—*Daily Express.*

CARRIER BEES.—The latest proposal for military reform is that bees should be used to discharge the functions of carrier pigeons. The mail-bags could, of course, be kept within reasonable dimensions by means of micro-photography, and they fly straight, and are too small to be easily picked off by hostile marksmen.—*Daily News.*

RELATION OF BEES TO AGRICULTURE.

HONEY YIELDS OF FRUIT BLOOM.

Fruit-growers of the present day are becoming more and more convinced of the importance of the part the honey-bee plays in pollination and cross-pollination of the blossoms of our common cultivated fruits ; and that to such an extent that already many orchardists have either themselves engaged in bee culture or have induced bee-keepers to establish apiaries in their localities. The bee-keeping specialist is naturally interested in this matter, although he is viewing it from a different standpoint. It interests him intensely to know from what special fruit-blossoms bees fill their hives quickest with honey, and from what source they get the most and the earliest pollen, &c. To bring some facts relating to this matter to the notice of bee-keepers would, it seems to me, be a benefit to them in more than one way ; and what I shall say in the following are the observations of noted men as well as our own in orchard and field.

Professor Lazenby stated before the Ohio Horticultural Society that the apricot was the first of all fruits to bloom, and that the honey-bee would work on these blossoms to some extent. Closely following the apricot he finds the different varieties of plum blooming, the Japanese plum blossoming first. All the Japanese varieties are extremely prolific, and from the second and third year after planting they bloom and bear profusely every year. I am growing Japanese plums along with others, and can truthfully say their tendency to bear fruit is marvellous. Every little twig is so covered with blossoms that they have not room enough to expand. The bees fairly roar in the trees when the weather is suitable.

While ploughing and working among my bees I have worked in a regular swarm of bees to my own delight. According to Professor Lazenby the plum-blossoms yield quite a little honey. The later European varieties continue the bloom, and bees sometimes work for a period of over three weeks on plum-blossoms where the different varieties are grown.

Next, and before plums are done blooming, the sweet cherries, sour cherries, pears, and peaches furnish a feast for the bees in the order named. Last comes the apple-bloom, which is, perhaps, of the greatest importance to the bee-keeper for several reasons. Apple-trees are the most numerous, and their blossoms yield more honey than any other fruit-trees, while the weather is generally more favourable at blooming-time, and the bloom lasts for about two weeks.

Professor Lazenby observed that plum-blossom is more more freely visited by bees than that of cherries ; the latter more frequently than apple; these more frequently than peach ; the least attention being paid to pear-blossoms of any of the fruits. He also noted that during the time plums and cherries were in bloom the secretion of honey was gradually increasing from morning to afternoon. He counted the bees that were returning to their hives, and found that in thirty minutes between the hours of eight and nine, 1,266 pollen-laden bees entered their hives (two in number) against 564 honey-laden bees. Between eleven and twelve, in the same time, 418 pollen-laden bees entered their hives against 2,362 honey-laden bees, and between two and three (afternoon), in thirty minutes 132 pollen-laden bees only were counted against 5,154 bees loaded with honey. It seems the bees neglected pollen in favour of honey toward and during the afternoon.

I have often noticed that honey-bees are very apt to do that same thing during any bountiful honey-flow. When the basswood honey-flow is at its best, scarcely any pollen is carried, although plenty may be had. There seems to be quite a difference in this respect between different colonies. Professor Lazenby observed, on May 7, during apple-bloom, out of 702 in-coming bees of one hive, 164 carried pollen, 538 carried honey. From 825 in-coming bees of another hive, 606 carried pollen and only 219 carried honey—the

one colony evidently going in for pollen principally, the other one for honey. It would have been interesting had we been told the exact condition of each of these two colonies as to the amount of brood and open brood; there might also have been a short supply of pollen in one hive, a scant supply of honey in the other, inducing the bees of these two colonies to gather that which was needed most in their respective households. But these are only speculations.

Among the small fruits the professor noticed that red raspberry-blossom was most frequently visited by bees. After those the most attention was paid to blackberry-blossoms, next black raspberries, then gooseberries, then currants, and finally strawberries, the latter being almost totally neglected by bees.

I consider both the red and black raspberry very valuable as honey-producers in my own locality. There are many extensive fields of black raspberries within reach of my bees, and these fields are fairly roaring at the time of the bloom. The gain in the hives is noticeable, and sometimes sections are filled with a rather dark inferior honey.

If we were to mark the different common fruit-plants on a scale of ten, showing the comparative number of flowers of each visited by bees, the grading would be as follows, according to Prof. Lazenby :—

Red raspberry, 9·5 ; blackberry, 9 ; plum, 9 ; cherry, 8·5 ; black raspberry, 8 ; apple, 6 ; gooseberry, 4·5 ; peach, 3·5 ; pear, 3 ; currant, 2 ; strawberry, 1.

WEIGHT OF BEES AND THEIR LOADS.

To the following statements of Prof. Lazenby I now wish to draw the reader's attention, especially as containing something new to most of us, and very interesting indeed.

On the morning of May 17 (probably during the apple-bloom) sixteen bees were caught as they came *from* their hives. They were immediately killed and weighed, each one separately. It was found their weights ranged from ·092 gram. down to ·071 gram.

Here, again, I will say that it would be interesting to know why comes this difference between outgoing (empty ?) bees. I wish the professor had made a post-mortem examination of these heavy bees. This might have put us in a better position to draw correct conclusions from his observations. His figures do not quite satisfy me. He figures out the average weight of an empty bee at ·079 gram. I should not be surprised if that was reckoning it too high. However, there may be that difference of ·021 gram between individual bees of one queen's progeny.

The professor—after finding out the weight of outgoing empty bees, caught sixteen incoming bees loaded with honey, and took their weight, each one separately. The heaviest weighed ·122 gram, the lightest ·073 ; the average he found to be ·094 gram. This makes the average load of honey weigh ·015 gram, or about 19 per cent. (one-fifth) of the bee's whole weight.

Pollen-laden bees were also caught, killed, and their respective weights ascertained, the same ranging from ·075 gram to ·098 gram, with an average of ·085 gram. Deducting from this the average weight of the outgoing bee, we find the average load of pollen that one bee carries to be ·006 gram.

On account of the great difference in the weights of the outgoing bees, this manner of reckoning is probably not quite reliable, but it is the best we can do at present.

By his further observations, and by careful counting, the professor is led to believe that a bee does not gather pollen and honey at the same time or on one trip. He has killed scores of pollen-laden bees as they entered their hives, and never found any more honey than one is likely to find in worker bees when they leave their hive.

Another of his observations may be of interest. He stated that, by painstaking counting, he found pollen-gathering bees to visit from three to five times as many blossoms as honey-gatherers.

(*Conclusion in our next issue.*)

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. Berry (Huddersfield).—*Bokhara Clover* (*Melilotus officinalis*).—Mr. F. Sladen, Ripple-court Apiary, near Dover, names seed of this plant in his catalogue but no doubt any dealer in bee-appliances who is also a seedsman (such as Mr. Geo. Rose, Great Charlotte-street, Liverpool) will supply it to order.

H. A. W. (N.B.)—*Buying Honey from Advertisers.*—We have no direct or personal knowledge of the advertiser you name, but if you have no reply explaining the delay in delivery by the time this appears in print please write us again and we will make inquiry. It is, however, easy to be safe in these matters by using our "Deposit System" of payment.

L. Stanier (Mont St. Guibert, Belgium).—*Using Combs from Suspected Hives.*—The dead bees received show no trace of foul brood, consequently there will be no risk in using the combs from which the bees were removed. It is clearly a case of death from want of food.

Editorial, Notices, &c.

A VISITOR FROM THE CAUCASUS.

We received an unexpected and very pleasant visitor a few days ago at the B.J. Office in the person of M. Nicolas Schawroff, President of the Caucasian Section of the Imperial Horticulture Society of Russia. M. Schawroff—whose visit to this country was made for the purpose of gaining information on subjects with which he is officially connected—besides being a distinguished horticulturist, is a regular reader of the B.J. and an enthusiastic practical bee-keeper, desirous of acquiring a personal insight into our methods of managing bees, and inspecting the best forms of hives and appliances in use.

In the regrettable absence of our Senior Editor—whom M. Schawroff was most anxious to meet, because of Mr. Cowan's intimate knowledge of Russia and its institutions, language, &c.—we rendered what help we could in supplying such information as was available, and with the invaluable assistance of Mr. E. D. Till, Mr. Edwin Young, Mr. J. H. Howard, Messrs. Jas. Lee & Son, and others, a very busy time for our visitor was spent between the offices of the B.B.J. and the B.B.K.A., followed by a programme extending over two full days. One day was given to the neighbourhoods of Eynsford and Swanley, Kent, visits being paid to the Horticultural College, Swanley, Messrs. Cannell's famed "Home of the Flowers," the Swanley Cyder Company's Works, and the Fruit Gardens and Jam Factory of Messrs. Wood, also at Swanley. Chief importance was, of course, attached to the visit to the Horticultural College, the Principal receiving the party most hospitably, and giving every facility for seeing and learning as much of the institution and its educational methods as was possible in the time at disposal. Every department of the College and the system of training followed with the students was replete with interest for the distinguished visitor, who took copious notes of the information afforded. Mr. Herrod, the apiarist of the College, explained the methods adopted with the students in apiculture, and photos were taken by M. Schawroff of the apiaries of the B.B.K.A., the College, and the hives belonging to the bee-keeping students, each of which is located some distance apart from the other, but all within the College grounds.

Then followed visits to the other places mentioned, and so amid Messrs. Cannell's extensive glasshouses devoted to horticulture, the mysteries of cyder-brewing, fruit-growing, and jam-making, each in its way possessing much interest as conveying instruction to the visitor, a long and enjoyable day was closed, with just time left to catch the last train back to town, no doubt fairly well tired.

On the following day M. Schawroff started early for Holme, Peterborough, where, as arranged beforehand, Mr. J. H. Howard met him at the station, and, the day being fine, a pleasant drive landed them at the "Model Apiary." Here, amid bees and workshops, of course a main source of attraction was the machinery for manufacturing comb-foundation by the "Weed" process. Nor have we any doubt that next season will see combs built from foundation made at Holme by bees working on the Caucasian Mountains, for M. Schawroff was careful to carry back with him from the various places visited samples of up-to-date appliances, including one or more hives of the most approved type.

We should like to hear from Mr. Howard how the day spent with him was occupied, for it so happened that on reaching town in the evening M. Schawroff found himself compelled to leave London at 9 p.m. the same night, and we were therefore disappointed in not seeing him again. A few lines written from his hotel, explaining his hurried departure and expressing regret at not being able to call again, reached us next morning.

Among other pleasant personal references, he writes, regarding the gentlemen met with:—"I am most thankful to you for introducing me to them, and I part from England with the greatest regret. I will, however, carry off with me the remembrance for ever of the most amiable persons whom I met."

For ourselves, and although we have not much expectation of being able to accept a cordial invitation to visit his home in Tiflis, we look forward with great pleasure to seeing M. Schawroff again in London, as he hopes to pay another visit to this country. In common with all who met him, we were delighted with his agreeable personality and the extent of his varied knowledge.

We also gladly accepted an offer to send some particulars of bee-keeping in Southern Russia, together with photos of apiaries in the Caucasus for publication in our pages, and meantime wish him *Bon voyage*.

BRISTOL, SOM., AND SOUTH GLOS. B.K.A.

A meeting of the council of the above association was held at Bridge-street, Bristol, on Tuesday evening, December 4, when, in the absence of the Chairman (Mr. S. Jordan), Mr. James Brown, presided. Amongst those present were Messrs. Withycombe (Bridgwater), Gough (Congresbury), and Kirby (Gloucester), and Wm. T. Tarr, Hon. Sec. Letters, regretting inability to attend, were read from Messrs. F. Chapman (Wells), and C. Harris (Long Ashton).

The minutes of the previous meeting having been read and confirmed, the council duly elected Mr. R. H. Hamlyn-Harris, F.E.S., F.Z.S., F.R.M.S., a life member of the Asso-

ciation. The chief business under consideration was to revise the rules. The proposed changes were drafted and will be laid before the annual meeting, which it was arranged should be held in January and that the subsequent proceedings should take the form of a dinner and *conversazione*. It was also decided to have a diploma and new seal for the Association.—WM. T. TARR, Hon. Sec., 42, *North-road, St. Andrews, Bristol, December* 5.

THE CHEMISTRY OF HONEY.

HOW TO DETECT ITS ADULTERATION.

BY THOMAS W. COWAN.

Read at the Bee-Keepers' Convention held at Chicago, August, 1900.

It is not at all unusual to hear people speak about bees gathering honey from flowers, or mentioning various plants as "honey-producing plants." Even in botanical text-books we read about "nectaries" or "honey-glands" in flowers. These terms are certainly not correct, because honey is essentially a product of the bee, and not of the flower which the insect visits. The sweet secretion which the bee gathers from the flower is called *nectar*, and consists almost entirely of cane-sugar. But after it has been collected by the bee, and before it is stored in the cells of the comb, it undergoes a change, and the cane-sugar is transformed into two other sugars called respectively grape-sugar and fruit-sugar. This transformation is brought about through the action of a secretion produced by glands situated in the head of the bee, and is similar in operation to saliva in the human being.

In order to have a right understanding of the subject, we will briefly glance at the way in which the sugar composing nectar is produced in the plant.

There is an important group of compounds which form the largest part of the body of all plants. These contain carbon, hydrogen, and oxygen, and the elements of hydrogen and oxygen being present in the same proportion as they exist in water, the name of *carbohydrates* has been given to them.

When light shines on a green leaf and stimulates it into activity, the leaf absorbs, principally through its stomata or pores, carbon dioxide (also called carbonic acid gas) from the air. After entering into the cells of the leaf, the carbon dioxide, together with a certain proportion of water, undergoes chemical changes, the carbon of the carbon dioxide becoming fixed, and a rapid accumulation of carbohydrates takes place in the tissues of the plants, the oxygen escaping into the air.

The most important of these carbohydrates is starch, which, thus formed, at first deposits in the leaf-cell in which it took its origin. From it a number of other vegetable products take their rise, which constitutes the greater proportion of all plant structures. In order that this may be done, the starch, once formed, must be carried about by the sap of the plant into every cell, whether of the root or flower. As each cell is a delicate membranous bag, closed in itself, a solid matter—such as starch would be, owing to its insolubility in cold water—cannot be removed from the tissues in which it is stored to the centres of growth where it is needed, but must be digested or transformed into a soluble, easily diffusible substance. The solution is effected by the chemical activity of an enzyme, or unorganised ferment, which is secreted by the protoplasm in the plant. This ferment is called *diastase*, and it is owing to its presence in active plant-juices that the starch is dissolved. The solution thus obtained is devoid of starch, has become sticky and sweet, and contains a substance called dextrine and a variety of sugar named maltose.

From the solution every minute cell abstracts a portion of the sugar and deposits it in the form of *cellulose*. This is the framework or woody fibre of every plant. It has, chemically, exactly the same composition as starch. Another portion of the dissolved starch is changed by the plant into *cane-sugar*. All plants form more or less cane-sugar, and secrete it by an apparatus called a nectary, which is generally connected with every flowerr, although in many plants nectaries exist in other parts, perhaps quite distant from the blossom, and these are called extra-floral nectaries. This secretion, properly called *nectar*, is what bees gather, and it consists almost entirely of cane-sugar, to which the sweetness of most flowers is chiefly due. The bee appropriates this cane-sugar, and by means of the glands already mentioned, transforms it into two other sugars, called respectively *dextrose* and *levulose*.

According to their composition sugars fall into three groups. These are:—

1. The *glucose group*. The principal members of this group are dextrose or grape-sugar, levulose or fruit-sugar, and galactose.

2. The *cane-sugar group*. The principal members are cane-sugar, sugar of milk, and maltose.

3. The *cellulose group*. The principal members are cellulose, starch, gum, and dextrine.

As much confusion exists in the lay mind respecting the various terms used by the chemist in describing sugars, and as each of the above groups contains different sugars, although of the same chemical composition, it is well to explain the meaning of those terms with which we have to deal, so that the uninitiated may understand just what the chemist means by the words he uses.

Dextro-glucose, glucose, and grape-sugar are synonymous, and are frequently used to designate dextrose.

Levo-glucose, fruit-sugar, and fructose are other names for levulose.

In like manner saccharose, sucrose, and cane-sugar signify the same thing.

When the chemist speaks of sugar he may allude to any of the sugars in groups 1 or 2, and when he uses the term glucose he may mean any glucose of group 1. With those who are not chemists it is different: they understand by glucose, commercial glucose, which is dextrose only, and by sugar ordinary cane-sugar, such as they use daily in their households. Now, although from a chemist's point of view honey is glucose, to call it so puzzles an ordinary person, because he at once, and quite naturally, associates it with commercial glucose or dextrose, from which honey materially differs in that it consists of both dextrose and levulose.

Honey consists of water and sugars belonging to the first group. The quantity of water varies from 12 to 23 per cent., the normal proportion being 18 to 21 per cent. When the percentage falls below 18 the honey is generally hard and solid; when it is higher than 21 it is often almost or quite clear, but the clearness does not always depend upon the amount of water alone.

Normal honey almost invariably divides into two portions, a crystalline, solid one and a syrupy one devoid of the power of crystallising, and rather sweeter than the solid portion. Chemically these two dissimilar substances are identical in composition, and both belong to the glucose group of sugars, but, physically, they possess very widely different properties. If a polariscope be used it would be found that the crystalline portion twists a ray of polarised light to the right, and is therefore called *dextrose*; the non-crystalline portion, however, turns the polarised ray to the left, and, for this reason, it is called *levulose*.

The great bulk of honey is composed of these two sugars in about equal proportions. It is kept in solution or liquid by about one-fifth of its weight of water, which, however, is not quite sufficient to keep one of the sugars—dextrose—permanently in solution, and gradually this separates in the crystalline form, holding the liquid levulose in suspension, and we have what is known as candied or granulated honey. The proportion of water in the honey is not a merely accidental one. Were more than one-fifth part of water present, it would be so fluid as to cause the honey to run out of the comb. Were it smaller than that stated, it would in damp weather attract moisture from the air. It remains transparent in the comb for a considerable length of time, because it neither loses nor appreciably attracts moisture.

Genuine honey almost invariably becomes opaque or granulates, although there are rare exceptions. When it happens that before the honey is extracted some of the crystals of dextrose remain attached to the cells, levulose predominates, and the honey remains clear for a long time, notwithstanding that the proportion of water may be very low.

All the saccharine substances in the different groups mentioned act upon polarised light, turning it more or less to the right, except levulose, which, as I have already stated, turns the ray to the left.

When treated with acids they undergo a remarkable change—they are all transformed, more or less completely, into dextrose, with the exception of cane-sugar, which yields both dextrose and levulose.

The rotation of the polarised ray to the left of levulose is greater than the rotation of the same quantity of dextrose is to the right. Therefore, when mixed together, as they are in honey, the polarised ray is twisted to the left side. All other sugars turning to the right, it is clear that whatever saccharine admixture is made to the honey the mixture must polarise to the right, thus possessing perfectly distinct optical properties distinguishing it from genuine honey.

But the bee carries with it from the flowers other constituents of considerable importance, and incorporates them in the honey. A great number of pollen-grains find their way into the cells, and from these minute quantities of colouring-matter are dissolved, which give honeys from different flowers the innumerable shades of yellow and brown with which we are so familiar. Thus, honey produced from white clover is devoid of colour, that from sainfoin is yellow, from beans brown, and from heaths quite dark. Honey always contains more or less pollen, and with the microscope an expert can frequently tell from the shape of the various pollen-grains the sources from which the honey was derived.

Still greater is the variety of flavours and odours, and every conceivable aroma due to the essential oils is met with, so that a practised observer can, without much difficulty, decide from what kind of blossom the nectar was obtained from which the honey was produced.

Having briefly stated the characteristics of genuine honey, I will endeavour to show how, when adulterated, the adulteration can be detected.

There are three classes of manufactured honey: First, that made from ordinary sugar, consisting of cane-sugar syrup; second, that obtained by the action of an acid or ferment upon cane-sugar, and consisting, as genuine honey does, of water, dextrose, and levulose; and, third, the product of the action of acid on starch, called corn syrup or commercial glucose.

A solution of pure honey in water, when boiled with an alkaline solution of sulphate of copper, deposits a precipitate of red cuprous oxide. Neither by the addition of alcohol, nor of lead acetate, nor of barium chloride should a solution of honey be rendered perceptibly turbid. Subjected to fermentation by the addition of yeast, practically the whole of the saccharine material should be decomposed and transformed into alcohol and carbon dioxide. And, lastly, examined by the polariscope, the polarised ray should turn to the left. Some honeys, such as those produced from nectar gathered from extra-floral nectaries, polarise to

the right, but if further subjected to dialysis for a certain length of time, the ray turns from right to left, back to zero.

Cane-sugar syrup, although it agrees in its chemical behaviour with real honey, when treated with alcohol, lead acetate or barium, not yielding any precipitates with them, differs essentially from it, inasmuch as it does not reduce an alkaline solution of copper sulphate; consequently, no deposit of red cuprous oxide takes place. A solution of cane-sugar turns the polarised ray of light to the right.

Cane-sugar which has been made into dextrose and levulose by treatment with an acid, is chemically identical with honey, and exhibits the same characters; but its origin is betrayed by the traces of acid which always remain mixed with it, and which cause precipitates with lead or barium solutions.

(*Concluded in our next issue.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

FOUL BROOD.

BOILING IN HONEY.

[4165.] Seeing that no one has so far added any remarks to the editorial footnote to the letter on Foul Brood (4153, page 467) in B.B.J. of November 29, I feel that it would be unwise to altogether pass over the matter of boiling "foul broody" beeswax in honey without adding some further details to disillusionise any who might contemplate such a course of action.

Your correspondent, Mr. Dempsey, asks for opinions on his suggestion, and I will endeavour as briefly as possible to put one or two questions before your readers showing how impracticable such an idea is. Amongst the first few sentences we read as follows:—"We are told that boiling will destroy bacilli but has no effect on spores"; without calling in question the accuracy of the greater part of the remark, I should like to say that the *latter* part will hardly bear investigation, for as every one knows who has had any experience with foul brood (although as in all else diversity of opinion exists) that if spores are boiled long enough at or above a certain temperature they will perish, especially if some antiseptic is added in solution according to the percentage of the former (phenol, naphthol beta, &c.) the desired end will be attained much sooner. There is nothing new in this.

Passing on to the second statement it only needs to examine the suggestion made, and without going very far, we are bound to admit how illogical the idea is. The very first question we must ask ourselves is: What is the germinating point of spores and how would this temperature coincide with the melting point of wax? The latter as every one knows is comparatively high, viz., from 145 to 150 deg. Fahr.; would spores germinate and produce bacilli at such a temperature? Surely not! And yet how would it be possible to release the spores from the wax unless the whole mass *were* melted down? Besides, long before the spores could germinate, even supposing such a thing possible, or the honey exercise any influence over them, the wax would commence to harden again. Thus we see it would really be a matter of boiling the spores and not the bacilli as your correspondent would suppose.

Having got thus far in our argument, let us now suppose boiling in honey to be of some service; our former conclusions, however, necessitate that spores be boiled for at least three to four hours in a very high temperature; what advantage, therefore, would boiling in honey have over boiling in water with a certain percentage of formic acid? We are thus brought face to face with the simple facts of the case and we see that the latter would be far ahead of the former method, even setting aside all questions of cleanliness and simplicity.

It is also very questionable whether honey is altogether sufficiently powerful as an antiseptic to exercise any power over spores; in fact, I am of the opinion, no doubt shared by all who have had any experience in this matter, that honey has no antiseptic value where spores are concerned; in fact, it has been repeatedly proved to be the means of carrying infection from one source to another. But there can be no doubt that, where bacilli are concerned, honey (or, rather, the formic acid contained therein) has a distinct antiseptic power. This is proved by the fact that foul brood is often held in check during the summer months, no doubt by the influence of the new season's honey. Nay, more; I have known cases in my own experience where it has been entirely cured under such circumstances. This is further confirmed by the fact of the disease breaking out again in the autumn, showing that, while the honey was instrumental in killing the bacilli, it had no effect whatever upon spores.

We are, therefore, forced to come to the conclusion that boiling in honey is quite unpractical, and could never be recommended to any one under any circumstances whatever.

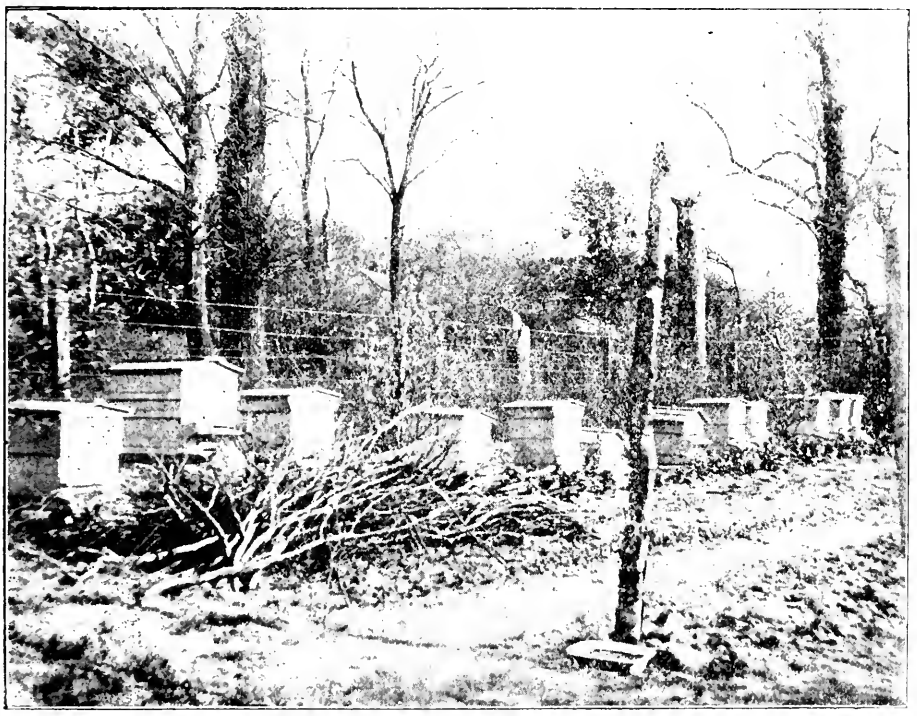
I think the subject is of sufficient interest to warrant my remarks.—R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., &c., *Zoological Institute, Tübingen University, December* 8.

(*Correspondence continued on page* 490.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The apiary of Mr. Moreland, seen below, and the district in which it is located, is reminiscent of bygone days, for the writer being almost within bee-flight of Higher Bebington, where some twenty-three years of our busiest work among the bees were spent. The Bidston Hill of to-day is, however, not quite the same forage-ground it once was, when its cottager bee-keepers were able to secure well-filled straw supers of good honey from their skeps and sell the comb from them readily, too, at 1s. 4d. to 1s. 6d. per



MR. H. T. B. MORELAND'S APIARY, BIDSTON, CHESHIRE.

lb. This was, however, regularly done in the neighbouring market of Birkenhead or at the houses of Liverpool merchants round about Claughton and the neighbourhood of the famous Birkenhead Park, laid out by Sir Joseph Paxton.

This is known to be one of the most beautiful public parks in the kingdom. But Birkenhead, "the City of the Future," as it was termed, has fallen upon evil times, and its "future" is not so bright as it once was. This has, however, little to do with bee-keeping, except so far as filling the space our friend Mr. Moreland should have occupied with some details of his Cheshire bee-keeping, instead of which he sends about a dozen lines of "copy" to furnish the "text," and leaves the rest to one "whose experience of Cheshire as a bee-county is beyond his own."

Mr. Moreland belongs to the South, and started to keep bees six years ago in Kent, where he resided. He tells us he is indebted for what he knows in the craft to the "Guide Book" and to the practical help and instruction given him by Mr. H. W. Brice and Mr. Wm. Herrod, the B.B.K.A. expert, both of whom are well known to readers. At the close of 1899 business called him to Liverpool, and in November of that year his apiary was transferred from Halstead, Kent, to Bidston, Cheshire, where it is now located on the farm of Mr. John Carey. The latter is also an enthusiastic bee-keeper, and his hives stand near to those seen, but not within range of the photo. Mr. Moreland tells us that his bees gather chiefly from sycamore trees and clover, a statement that shows how great is the change since the days of our own experience of Cheshire, when we always left the sycamore honey to the bees for food and as "not good enough" for table use. It thus becomes important to remember that bees may gather only inferior honey—and not too much of that—in a spot within four or five miles of good and plentiful pasturage, which means success. We may, therefore, add *Verb. sap.*

CORRESPONDENCE.

(*Continued from page* 488.)

STINGLESS BEES (?).

[4166.] I have read with much pleasure the several articles now appearing in the B.B.J. on the subject of old bee books, and containing extracts from the ancient volumes dealt with. I hope we shall continue to have more of them from those of your more thoughtful readers who possess such books. I enclose an extract for insertion if thought sufficiently interesting, and would suggest that any reader having access to old books or magazines in which are found articles relating to bees and bee-keeping will copy out and send to you for insertion if suitable.

Those who have friends living abroad, especially along the South American coast, might also ask them to relate anything they may know or can learn regarding the bees of their districts, seeing how useful it might be to bee-keepers at home. As my own contribution to the subject I would say that early in the present century one Captain Hall published a book of his travels in Mexico, Peru, and Chili, and in it he gives an account of his visit to a bee-garden at Plaza, from which I extract the following :—

"From the Plaza we went to a house where a bee-hive of the country was opened in our presence. The bees, the honey-comb, and the hive differ essentially from those in England. The hive is generally made out of a log of wood from 2 to 3 ft. long and 8 or 10 in. in diameter, hollowed out, and closed at the ends by circular doors, cemented closely to the wood, but capable of being removed at pleasure.

"Some people, instead of the clumsy apparatus of wood, have a cylindrical hive made of earthenware, and relieved with raised figures and circular rings so as to form handsome ornaments in the verandah of a house, where they are suspended by cords from the roof, in the same manner as the wooden ones in the villages are hung to the eaves of the cottages. On one side of the hive, half way between the ends, there is a small hole, made just large enough for a loaded bee to enter, and shaded by a projection to prevent the rain from trickling in. In this hole (generally representing the mouth of a man or some monster, the head of which is moulded in the clay of the hive) a bee constantly was stationed, whose office is no sinecure, for the hole is so small that he has to draw back every time a bee wishes to enter or leave the hive. A gentleman told me an experiment had been made by marking the sentinel, when it was observed, the same bee remained at his post a whole day.

"Where it is ascertained by the weight that the hive is full the end pieces are removed and the honey withdrawn. The hive we saw opened was only partly filled, which enabled us to see the economy of the interior to more advantage. The honey is not contained in the elegant hexagonal cells of our hives, but in wax bags not quite so large as an egg. These bags or bladders are hung round the sides of the hive and appear about half full, the quantity being probably just as great as the strength of the wax will bear without tearing; those near the bottom being better supported are more filled than the upper ones. In the centre of the lower part of the hive are observed an irregular shaped mass of comb, furnished with cells like those of our bees, all containing young ones in such an advanced state that, when we broke the comb and let them out, they flew merrily away. During this examination of the hive, the comb and the honey was taken out and the bees disturbed in every way, but they never stung us, though our faces and hands were covered with them. It is said that there is a bee in the country that does sting, but the kind we saw seem to have neither the power nor the inclination, for they certainly did not hurt us, and our friends said they were always 'muy manso' (very tame), and never stung any one. The honey gave out a rich aromatic perfume, and tasted differently from ours, but possessed an agreeable flavour."

Now, if the bees of Plaza, to which the above extract refers, are really stingless, besides being good workers, and if they could be induced to dwell in England, there might be a good opening for them. Why should we not get good queens from South America as well as from Cyprus?—THOS. PRIDEAUX, *Whitchurch, Salop, December* 5.

SHOW MISMANAGEMENT.

[4167.] After reading Mr. Jno. Berry's letter on the treatment of exhibitors by some secretaries of honey shows (4158, p. 479) it occurred to me that I met with almost similar treatment by the secretary of the honey department of the same show, *i.e.*, the Industrial Exhibition held at Edinburgh in October. I sent entry fees 4s., and 2d. for particulars and schedule, but received no acknowledgment whatever. In consequence I wrote afterwards to the secretary complaining of this sort of treatment and asking him to return my entry fees, but I have so far failed to get a reply. I would be very pleased to see a report of show if such has been published.—HENRY WADDINGTON, *Boroughbridge, Yorks, December* 8.

[Having been requested to make an appeal for entries at the show in question we did so in our issue of October 4, drawing attention to an advertisement (on page 5 of same issue) wherein appeared full particulars of the exhibition to be held at Waverley Market, Edinburgh. How far our appeal proved successful we know not, but one exhibitor, among several who make similar complaints to the above, adds the statement that it was in consequence of what he read on page 385 that his entry was

made. We, therefore, regret to find that owing to what is, at the least, secretarial negligence, there appears to be just cause for dissatisfaction, and we should be glad to have a line for publication from those most concerned tending to explain matters.—EDS.]

ANCIENT BEE BOOKS.

[4168.] I have read with much interest Mr. A. A. Headley's "Fugitive Papers on Ancient Bee Books" in your JOURNAL of November 8 and 29 (Nos. 959-962) bearing on the "Feminine Monarchy," by the Rev. Charles Butler.

Referring to the BRITISH BEE JOURNAL, vol. iv., January and February, 1877 (pages 159 and 178), I beg to remark that the first edition of this most valuable work was published in 1609, and not in 1704.

I have in my apicultural library (consisting of about 2,500 works) four editions of Butler, viz. :—

1. *The Feminin Monarchie*, or history of bees. London, printed by John Havilland for Roger Jackson. 1623. Second edition.

2. *The Feminini Monarchi', or the Histori' of Bees*, Oxford, Printed by William Turner for *de* Author. 1634. 182 pages.

3. A *Carlo Butlero*, Magd. Oxon. *Monarchia faemininia, sive Apum historia* Nunc primum interprete R. Ricardi, [not in text : R. Richardson] F. Eman. Cantab. Latinitate donate &c. Londoni. Typis A. C. Impensis Authoris 1673. 199 pages in 12°.

4. *A. Carlo Butlero.* Magd. Oxon. *Monarchia faeminarum sive apum historia.* Nunc Latinitate donata, Opera Ric. Ricardson. Eman. Cantab. Oxon Typis Lichfieldianis, 1682. 199 pages in 12°. [This book is a textual reprint of the foregoing, only the title-page being new.]

Should you consider this to be of any interest to your readers, I should be glad if you would insert it in the columns of your esteemed BRITISH BEE JOURNAL.—E. DRORY, 18, *Gitschiner Strasse, Berlin, December* 3.

[On reference to B.B.J. of November 22 (page 461), it will be seen that Mr. Headley there says : "It must be remembered that 'The Feminine Monarchy' which I have noticed in my last paper" (No. 2, page 449) "really represents the date 1609, when it was first published, and not 1704, when it was reprinted." There is thus no divergence of opinion between our respective correspondents. —EDS.]

HONEY SALES,

[4169.] In BEE JOURNAL of December 6 (page 479) I note the remarks of Mr. Wm. Woodley on "Honey Sales," and as one who makes a speciality of "comb honey" production, like Mr. Woodley I hope to see the opinion of other bee-keepers. Had I been able to execute my orders (many of which had to be returned) I should certainly have made an advance in price, especially at this time of the year and after such a scarce season. Speaking from experience, I should say that this part of Yorkshire (North Riding) is pretty well cleared out of comb honey.—T. WOOD, *Pickering, Yorks, December* 7.

BEE-KEEPING AROUND SALISBURY.

[4170.] I have just returned from Salisbury, and from a visit to dear old George Herbert's home at Bemerton. The chapel only contains a very small marble slab with the letters "G. H. 1632." as a memorial of the celebrated man who once preached there. We visited the Rectory, and by the kindness of Canon Warre (his butler a fine specimen of an elderly manservant) we were allowed to see George Herbert's study and other parts of the house. The butler is an enthusiastic bee-keeper of many years' standing—almost from his youth—and showed us magnificent sainfoin section honey, that would win at any show. Sections go cheap in Wiltshire. We saw the prostrate medlar tree by the river, said to date back to Herbert's days. It is a delightful spot, and a superb situation for bee-keeping. We visited Winterslow, seven miles out, to inspect the freehold small holdings, where the men themselves build their houses of chalk—*i.e.*, so far as walls go. They are wonderfully warm and dry, as well as economical. The chalk is dug, and the hole from which it is taken forms the cellar. Excellent cloth is made at one of these chalk houses. We saw fewer hives than we expected, but tasted some excellent heather-flavoured honey at Major Poore's, who is the promoter of the Winterslow scheme. There, despite the bleak situation on the plain, we saw unmistakably the magic of ownership marking the whole place.

The number of ownership-voters in the parish is extraordinary. The schoolmaster —a very intelligent man—gave us much information. I cannot see why these chalk houses should not be constructed in Kent. How different would it be with our labourers and with the cottager industries were country people, as at Winterslow, proprietors of their own houses. And what an interest ownership gives in one's surroundings! But those accursed terraced, gardenless, back to back houses are run up in rural places even where ground is dirt cheap, and where every thrifty labourer ought to have a fine garden round his house and thus be able to keep his neighbour at that respectful distance which makes for privacy, peace, and comfort. We went to Andover and saw other examples of chalk construction. The Camp will be sure to change the character of the parts round Salisbury. We are trying to start a freehold cottage scheme here in Kent. Cheap four-roomed

wooden houses (now that we have got the Local Government Board to grant the use of wood) can be built, and one-fifth of an acre bought for £150. Interest costs 1s. 9d. Rates, repairs, &c., 1s. 3d., and an endownment policy payable in twenty years, or at death if prior, costs 3s. Thus for 6s. a week a man may become his own landlord. Of course, this is only possible, as a rule, where wages are good.—E. D. T., *Eynsford, December* 10.

ADULTERATION.

[4171.] I wish to direct your attention to the "Editorial" in the cutting from *Lloyd's News* herewith enclosed.

This paper has a circulation of over a million copies, and although the reference made by the editor to the use of glucose in adulterating honey is in itself a small matter, its effect upon bee-keeping may be far reaching. Having myself been interested in bee-keeping for a good many years, I have been brought in contact with a large number of the principal bee-keepers in this country, but so far have never met a single bee-keeper whom I could in the least suspect of adulterating his honey.

I was glad to see that our editors had dealt with the necessity for using pure cane sugars for bee-food, these being above suspicion in the matter of adulteration. Referring to the arsenical poisoning of beer drinkers, I may mention that a lecturer on agricultural subjects for one of the County Councils calls attention to the possibility of sufficient poison being retained in hops from the "dressings" used to destroy "blight" and insects on the growing hops, to poison beer drinkers. I believe one ingredient employed in the mixture for spraying hops is also used in spraying fruit trees, when in bloom in spring, and I think it was only last spring that a report appeared in one of our BEE JOURNALS of large numbers of bees being poisoned when visiting the fruit blossoms after spraying.—WM. LOVEDAY, *Hatfield Heath, December* 10.

FUGITIVE PAPERS

ON ANCIENT BEE BOOKS.

No. 6.—"A THEATRE OF POLITICALL FLYING INSECTS" (1657).

[4172.] "One drop of water hath no power, one spark of fire is not strong; but the gathering together of waters called seas, and the communion of many flames do make both raging and invincible elements. And *una apis, nulla apis*, one bee is no bee; but a multitude, a swarm of bees, uniting their forces together, is very profitable, very considerable, very terrible; profitable to their owners, comfortable to themselves, terrible to their enemies. Bees are politicall creatures, and destinate all their actions to one common end." This quotation from the learned Samuel Purchas, "Pastor at Sutton, in Essex," sufficiently explains the curious title of his book.

Perhaps the most useful way of reviewing it will be to see what progress bee-keeping had practically made during the half century that had elapsed since the first publication of "The Feminine Monarchy." Queen introduction was practised. "If you perceive a hive, after it hath cast twice, to have some quantity of bees, and yet to work negligently, or not to increase in the spring, suspect them to want a queen, and supply them with one as soon as you can, if no other way, by driving a poor swarm into them, for which purpose alwayes reserve some.... I have preserved the stock by putting to them a queen bee taken from another. And once, because I would bee sure, I pared off a little of one wing, and some months after, for experience sake, took the hive, where I found that commander put in by mee, and no other leader." Sometimes the bees were given more storage-room as follows: "About the middle of April in a warme spring, observe what hives are full and begin to lye out, and set a hive with the combes that the bees dyed out of the winter immediately before next to such a full hive, and you shall have them work into it presently, and carry in abundance of honey."

He raises the question of having a glass hive and dismisses it as impracticable, because the bees working inside it would not be transparent and such hive would be "subject to violent heats and colds."

It will be remembered that Mr. Butler advised turning a hive upside down and placing an empty hive above it for the bees to work in. Mr. Purchas quotes this and says: "This course seems plausible upon the first proposal, but upon frequent trial I have found it to little purpose; for the bees, having many young ones in the old hive and much meat, will not ascend, but as they are necessitated for room, and then work their combs to the old upwards and not downwards from the top of the hive newly set over them; so that by parting of the combs, which will not bee without trouble, you may take some little profit of the combs new wrought, but must continue the old hive to stand still except you mean to take all." He advises limiting two or three second swarms together, "and so they will be as good as a first swarm." The method is just what we should adopt nowadays. In returning second swarms to the parent hive he says, "Look heedfully when you first knock them out for the queen bee and take her away, and then shall you bee sure to prevent furthur and future trouble."

I will conclude my notice of this book with two or three of the "Meditations and Observations, Theologicall and Morall, upon the Nature of Bees."

"Some use flowers only for the beauty of the smell, the physicians for health, but the bees for honey. So doe wise and pru-

dent persons apply their studies for the enriching and feeding of their mindes.

"Bees with their swift and nimble wings fly from flower to flower, and draw out the latent native sweetnesse with a harmless unprejudiciall robbery, that therewith at length they may provide and afford sweet honey for the sonnes of men: So the ministers of the gospell are sollicitously carefull with the light wings of meditation, to light on the pleasant and delightfull gardens of the Scriptures, that they may pleasingly instill and drop in the sweet honey of faith into the hearts of their hearers.

"If Nature teach bees not only to gather honey out of sweet flowers, but out of suppossed bitter, shall not Grace teach us to draw even out of the bitterest condition something to better our soules?

"There is nothing more dangerous than honey mixt with poison, and there is no man more perilous than a flattering faire-tongued man, that speaketh out of a hollow heart."—A. A. H.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of November, 1900, was £1,649.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Queries and Replies.

[2559.] *Bee-keeping as a Sole Source of Income.*—I should be obliged if you could inform me:—1. Whether it is possible for a person to make £2 weekly from keeping 100 hives, the products to be sold being honey, wax, swarms, and queens? 2. Do you recommend it as a sole source of income? 3. Do you know of persons in England who depend entirely on bee-keeping for a living? Or is it impossible?—ALFRED BELL, *Kent, December* 9.

REPLY.—1. Experience abundantly proves that when considering the subject of bee-keeping, it is wise to leave out of our calculations what is "possible," and confine ourselves to *probabilities*. In other words, what is the good of counting much on the fact that a B.J. reader has proved it to be possible to secure over 350 lb. of surplus-honey from a single hive in one season in this country? Or that an average of 232 lb. was taken from the same owner's nine hives last year? It only shows us what is "possible;" but there is a wide gulf between that and what is far more than probable. It would be worse than folly to count on any such results being relied on for a succession of years, and we therefore again give our oft-repeated advice not to rely solely and wholly on bees and honey for a livelihood in this country. Our seasons are too uncertain for any such idea to be entertained with safety. On the other hand, to combine the appliance trade, honey-production, queen-raising, and dealing in stocks and swarms, it should not be beyond the reach of a capable man, suitably located, to clear more than £2 per week from his labours. 2. We only advise it when carried out as above. 3. Though not a few make it their main source of income, we cannot point to any one who has absolutely nothing else whatever to fall back upon.

[2560.] *Destroying Grass about Hives.*—Will you kindly inform me through B.B.J. how I can get rid of grass growing among my hives? I cannot dig it out for more than one reason. Will an application of diluted crude carbolic acid destroy the grass so as to prevent it growing again soon? Can you tell me what will do if the above will not? I intend putting a thick layer of engine ashes down if I can kill the grass.—JOS. P. DOUGLAS, *Cockermouth, December* 6.

REPLY.—We have found an application of coarse bay-salt—laid on fairly thick—to be the most effective way of destroying grass about hives. If applied freely and left till the grass is "killed down," the proposed layer of engine ashes would put a stop to the growth of grass for some time at least, and if it again appears give another sprinkling of salt to check its spreading.

[2561.] *Bee-Nomenclature.*—Will you kindly inform me, in your useful JOURNAL, of what race or kind the enclosed two specimens of bees are? No. 1 is from a colony I bought at an auction sale in October. No. 2 comes from one of my old stocks, and represents the kind of bees very common about here.—A. A. B. B., *Worcestershire, December* 8.

REPLY.—No. 1 is either a Ligurian or Cyprian; probably the first-named. But the bee is so crushed in post (as bees always are when sent without protection in a simple envelope) as makes us uncertain which. No. 2 (also crushed flat) is probably of the common or native variety.

RELATION OF BEES TO AGRICULTURE.

(*Concluded from page* 484.)

SPRAYING FRUIT-BLOOM WITH ARSENITES.

In the States, where bee-keepers are awake to their interests, they have, I believe, succeeded in getting laws passed against spraying fruit trees while in bloom. This they accomplished on the mere strength of their *belief* that bees would be and had been poisoned by visiting sprayed bloom. Positive proof that bees were ever poisoned was really lacking. But, as Professor A. J. Cook says, "We spray potato-vines with poison, and the insect pests

disappear. We do not make a post-mortem examination to find out whether the dead insects have 'Paris green' in their stomachs, but are satisfied with the apparent result of our spraying, and the fact *that the pests dealt with are gone.*"

We have taken the same ground in the case of bees. *The trees had been sprayed, and the bees have died as the result.* Many scientists, however, have not been satisfied with our opiniative proof. They refuse to accept what bee-keepers thought they had good reason to believe. The Ohio Agricultural Experiment Station has now published the results of experiments made in order to test the matter, and these results furnish the missing link in the chain of proof now available. How minutely and extensively the work was carried out may be judged from the few following facts :—Separate analyses were made of thorax, posterior legs, and abdomens of bees which were known (or at least strongly suspected) to have died from arsenical poisoning while working on the sprayed bloom. The bees were first washed in three different ammonia waters to ascertain whether any poison adhered to the bees' exteriors, and to remove such. In some cases slight traces of arsenic were found in the ammonia water. Thoraxes and also posterior legs, with the pollen adhering, analysed gave *no traces of arsenic.* This is contrary to my expectations. I should surely expect the pollen to contain poison as well as the honey. In stored honey taken from nearly ruined colonies, no traces of arsenic could be detected ; but the abdomens of bees analysed revealed unmistakable traces of the poison.

In summing up, the report says :—"We believe that we have the first conclusive proof of the effect on bees of the use of arsenical poisons in the orchard while trees are in bloom. We can see no other conclusion that can be drawn from the result of our experiments than that bees are liable to be poisoned by spraying the bloom of fruit trees, the liability increasing in proportion as the weather is favourable for the activity of the bees ; that all bloom must have fallen from the trees before the danger will have ceased."

The bee-keepers of our land owe the Experiment Station of Ohio a vote of thanks.

One more point I wish the station had not been silent on. I should like to know the whole truth. It would interest me to know how much of a crop these trees, sprayed while in bloom, bore as compared with the others not so sprayed ? Our esteemed friend, E. T. Abbott, said at the Buffalo convention that a fruit-blossom is so delicate that it cannot even bear a drenching of water, much less of Bordeaux or Paris green mixture. If that is true, spraying it would necessarily and totally ruin the fruit crop, and no sensible fruit-grower would try that more than once. I, at the same time, gave expression to my view, that spraying the bloom might not prove to be so damaging to the fruit prospects as it would be useless and unnecessary work. The Ohio Experiment Station should be in a position to decide that point. If the fruit-grower could be made to believe that he would injure his fruit crop by spraying the bloom, then, of course, he would not spray. But I believe it is always best not to exaggerate, but stay within the limits of truth, if we know what that is.—F. GREINER, *in* "*Gleanings*" (*American*).

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. A. W. (Gourock).—*Buying from Advertisers.*—We are glad to hear the matter has been satisfactorily settled.

Honey Samples.

JNO. R. INGERTHORPE (Knowle).—1. The sample received (a portion of a crushed section) is of good colour, and we see no reason to doubt it being genuine honey. It is, however, thin, and not well ripened ; consequently it has become slightly sour preparatory to fermentation. In its present condition such section honey would be unsuitable for table use. 2. A chemical analysis by a professional analyst, such as you ask for, would probably cost a guinea, nor do we think such is necessary, having no doubt as to the sample being genuine honey.

T. H. (Pickering). — The sample marked No. 1 is coarser in grain than heather-honey generally, and in consequence we think it likely to be mixed with honey from some other source. On the other hand, honey solely from heather is never so extremely smooth and paste-like in grain as No. 2. We therefore conclude from this and its mild flavour that it is a mixed honey, chiefly, but not wholly, from heather. It is a nice-flavoured honey, and we see no valid reasonfor its being returned, as stated.

Suspected Combs.

H. G. (Kent).—Comb contains no trace whatever of brood ; all the cells other than empty ones are partly filled with pollen only.

H. W. H. (Margate).—The comb is not only affected with foul brood, but is also infested with the larvæ of wax-moth. We advise burning all such combs and disinfecting the hive before using again for a swarm.

Editorial, Notices, &c.

THE HOLIDAYS.

SPECIAL NOTICE TO OUR READERS.

Tuesday and Wednesday next being respectively Christmas-day and Bank Holiday, we are, perforce, compelled to go to press two days earlier than usual, viz., on the morning of Monday, the 24th inst., in order to get the paper into the hands of our wholesale agents on the afternoon of that day. This necessitates our asking that correspondents will kindly oblige by posting letters, queries, and advertisements intended for the BEE JOURNAL of Thursday, December 27, not later than Friday, the 21st, in order to reach us on Saturday morning.

We take the opportunity of conveying our best wishes for the health and happiness of all in the Christmas season of "goodwill to men."

THE CHEMISTRY OF HONEY.

HOW TO DETECT ITS ADULTERATION.

BY THOMAS W. COWAN.

(*Concluded from page* 488.)

Starch or corn syrup, known commercially as glucose, differs in almost every respect from honey. It throws down abundant precipitates with lead and barium solutions, and often with alcohol. It does not ferment completely, but leaves about one-fifth of its weight as unfermentable gummy residue, and, examined by the polariscope, it turns the ray of light powerfully to the right.

Glucose is prepared on a large scale from corn-starch. The transformation is usually effected by boiling with dilute sulphuric acid. The excess of acid is removed by treating the solutions with chalk and filtering. The filtered solutions are evaporated to a syrupy consistency, and sent into the market under the names of glucose, corn syrup; or to dryness, the solid product being known in commerce as "grape-sugar." Much of the granulated sugar of commerce is adulterated with glucose.

If, in the treatment of starch with sulphuric acid, the transformation is not complete—and this is usually the case—the product is a mixture of dextrose, maltose, and dextrin. It is quite easy, generally, to recognise the acid which has been used to convert starch into glucose. In the laboratory it is quite possible to make pure glucose and remove every trace of acid; but, commercially, it is practically impossible, by subsequent precipitation of the product, to get rid of this acid, and, as a consequence, it appears in the honey which is adulterated with it, and by adding to a clear solution of honey containing such glucose a solution of barium chloride, a white turbidity at once makes its appearance, varying in density with the quality of corn syrup present and the state of its purity.

The exact percentage of glucose added to honey can be determined by the polariscope. I use a Soleil-Duboscq instrument, with a tube 200 millimetres long, and Dr. Haenle's formula, which is the following:—

$$x = \frac{(P+p)x3}{10}$$

for flower honey, x = percentage of adulteration, P = polarisation of honey that is being examined, p = normal polarisation of pure honey. The normal polarisation of honey being 30 deg., it follows that if we find a honey that shows say 44 deg. of polarisation to the right, according to this formula, we have

$$\frac{(44+30)x3}{10} = 22{\cdot}2 \text{ per cent.}$$

of corn syrup added. In this way it is quite easy to determine whether a sample is adulterated with glucose and the amount of the adulteration.

Cellulose has chemically exactly the same composition, both qualitatively and quantitatively, as starch, and, like it, can be transformed into glucose by the action of sulphuric acid. It will, therefore, be seen that substances containing cellulose, such as old cotton and linen rags, paper or wood, could be used for the preparation of dextrose or glucose, did not the low price of starch render the employment of cellulose for the preparation of this kind of sugar unprofitable.

When bees have been fed with cane-sugar syrup, only part of this is transformed into dextrose and levulose, so that it is easy to detect the presence of cane-sugar in the way I have pointed out before, when this method of fraud had been adopted.

Chemistry has made enormous strides during recent years, but, so far, only chemical compounds of comparative simplicity have been the result, and not in any case has any complex product, such as is used for man's food, been obtained. The value of food substances, and, above all, their price, generally stands in no relation to their composition. Composition, as ascertained by chemical analysis, goes for very little; *quality*, which is dependent upon circumstances beyond the present knowledge of the chemist, goes for a great deal. For instance, a pound of tea has, chemically, no more value than a pound of plum or willow leaves, but who would pay the price for these that tea is really worth? Wine consists of dilute alcohol, slightly acid, and more or less coloured, but chemistry has failed to produce from these ingredients anything resembling the high-class wines which command such enormous prices. Sawdust is chemically the same, both qualitatively and quantitatively, as corn flour, but one would not care to have the former substituted for the latter at the same price. We would resent our butcher giving

us leather instead of meat, although the composition of these is chemically almost identical.

I might extend this comparison indefinitely, for it is the same with almost every article of food or luxury. The difference betweeu good and bad tea, or wine, or meat is so small, that the most careful analysis fails to detect it. The value, therefore, is not a question of the composition of the article, but is regulated by the presence or absence of minute quantities of flavouring matters about which we know very little or nothing at all.

We prize honey not because it consists, as the chemist would say, of sugar and water, but because it possesses a delicate aroma and flavour which is always absent from, and cannot by any known means at present be imparted to, any artificially made syrup. Glucose, and even cane-sugar that has been given to bees to store in the combs, are totally devoid of the aroma of honey, so that when these are substituted for honey the fraud can be easily detected.

The taste of the public has not yet been sufficiently educated, and any syrup is eaten as honey provided it looks transparent, and is contained in a neat jar and has a gaudy label. When the taste is as well educated for honey as it is for tea, meat, or other articles of everyday consumption, no one would venture to palm off artificial syrup for real honey.

It is difficult to decide whether the food value of the substitute is as good as that of the original article. Sugar in any form produces the same proportion of heat. Oleomargarine, when burnt or digested, produces the same amount of heat as butter. Yet butter holds its own against its substitutes on account of its delicacy of flavour and more ready digestibility. And we have reason for believing that a similar difference exists between honey and glucose. We know that bees refuse, as long as they are able, to feed upon glucose, and when driven by starvation to take it they soon die. The probable reason for its deleterious effect is that levulose, one of the constituents of honey, is absent, and that the glucose of commerce contains impurities. At any rate, any chemist caring for his reputation would pause before giving a definite opinion as to the relative food values of the two products.

Moreover, we know that dextrose is the sugar found in the urine in cases of diabetes, often to the extent of 8 to 10 per cent., and also that levulose is a purgative, which probably counteracts any evil influence dextrose may have if taken alone. Thus we have very good grounds for considering glucose deleterious, while the combinatiou of dextrose and levulose in the form of honey is a healthy food. Experience has shown that honey can frequently be eaten by those who cannot take sugar. The reason is, that when cane-sugar is taken, before it can be assimilated it has to be transformed into the two sugars that compose honey. Should the digestion be faulty and the transformation not be complete, some of the cane-sugar enters the circulation and acts as a poison in the blood. Honey is already cane-sugar perfectly transformed, and is therefore ready to be assimilated without any previous digestion. For this reason pure honey is to be recommended for children and persons of weak digestion.

I will not enter into the question of whether the substitutes for honey should be allowed to be sold. If they are *per se* not considered harmful, they should at any rate, in fairness to the purchaser, be labelled, and their constituents stated on the labels, so that the buyer may know exactly what he is paying for, and I have no doubt that when the public taste is educated, as it has been in respect to other foods, there will be a demand for good, delicately flavoured honey, and glucose sold as a substitute for it will be a thing of the past.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4173.] The weather at the time of writing keeps mild and open with the barometer at or near "set fair" and several hours' sunshine daily; the mavis and other birds trilling in the air and in the trees, and bees on wing active around the hives. The early flowers are also rapidly showing themselves above ground, the arabis and daisy being already seen in full bloom, while the crocus blossoms are showing themselves. All these indications point to spring rather than winter. The period of rejoicing by the re-gathering under the paternal roof will soon be with us, though our surroundings are anything but "Christmas-like" just now. Yet we may have a change ere the 25th, and celebrate Yuletide amid the old-fashioned surroundings of frost and snow.

Bee-Food and the Arsenical Scare.—Past volumes of the B.J. testify that some bee-keepers, myself among them, have always advocated the use of pure cane sugar for

making bee-food. Scientists may demonstrate that the sugar of commerce and that made from the sugar cane are identical from a chemical point of view, but as a wholesome bee-food I have always doubted if beet sugar was equal to that from the sugar cane. (Mr. Cowan's interesting article in last week's B.J. places cane sugar next to honey in its constituent parts.) Not only do the Continental, but English, sugar refiners make crystallised sugars in imitation of the granulated Demerara, and it takes a good judge to decide between the pure cane and the imitation article. The buyer of sugar for bee-food should, therefore, insist on a guarantee that he gets pure cane sugar. The danger from arsenical admixture in glucose and sugar would seem to be in the careless manufacture of sulphuric acid, and no doubt the wide publicity given to the subject will cause such legislation as tends to prevent poisoning in this direction.

Bee-Keeping as a Business.—I notice a correspondent inquires on page 493 if it is possible to get a fair living by bee-keeping alone in this country? And our Editors wisely (in my opinion) advise him not to try it. That bee-keeping is a profitable "hobby" is proved year after year by many B.J. readers, but those who depend entirely on bees—well, who are they? Though my knowledge (and vision too) is admittedly limited in this respect, I do not know one. The man who does well with his bees must be careful and painstaking; he must also be adapted to the work and not afraid of it. Then "locality" is one of the greatest factors in the output of the apiary; and this raises another thought: Do not go and "plank down" a large apiary near to another equally large, and fancy that you will do as well as the "other fellow." Probably the already established apiary fairly covers the ground—so far as regards the "over-stocking" question—and another located near would simply mean dividing the spoils. Thus the other fellow (whose brains you no doubt wish to ransack) would find that his output was considerably reduced owing to *your* bee and *his* bee wishing to sip the nectar from the same flower at the same time. Of course, in time he would naturally grumble, not that his priority of location gave him any prior right to the honey in the neighbouring woods and fields, but half a crop would neither please him nor prove remunerative to yourself. The number of stocks a district can carry profitably is a difficult point to decide, but it is not during the honey-harvest that this matter is of the greatest importance. The spring-time must be taken into consideration, when forage is scarce and flowers are few; this is when the foundation of success is laid, and yet even then, when the month of June is cold, wet, and sunless (as was the best part of June, 1900), "the best-laid plans of mice and men gang aft agley." Therefore, I, too, say, in effect, with our Editors, "Don't put all your eggs into a bee-hive." I admit some of our American cousins suggest that strong colonies of bees would make successful "Incubators;" but I fear that one hundred English gold coins invested in bees would not materalise into cent. per cent. profit yearly. And these considerations cause me also to advise (without being asked) that more than one string be fitted to the bow, in case the bee-string failed. We have had "Poultry-farming," County Council lectures, and classes in our district, and at the last lecture it was asked if the Professor thought it possible to make a fair living by poultry-farming? His reply was he "could not advise any one to try it; but as an adjunct to other means it was, if conducted carefully, profitable." Yet, if one is to believe the advertisements in our newspapers, 20s. weekly in spare time from "incubators" can easily be made. Thus a poultry farm combined with an apiary, or an apiary and some other calling which does not take up all the six days, would work well together—say, assistant-overseer, land-measuring, school attendance officer, road surveyor, shoemaker, &c.

Au revoir. And now let me wish a Merry Christmas and a Happy New Century to every brother, aye, and sister, bee-keeper.—W. Woodley, *Beedon, Newbury.*

MY FOUR SEASONS' BEE-KEEPING.

[4174.] My bee-keeping experience only extends over four seasons, but the last year has been the most unfavourable of them all. The prospect in May was very bright; bees had worked well on fruit-blossom, and all stocks were well forward and ready for supers before the end of the month. Before June had far advanced, however, the outlook changed for the worse, and very little surplus was gathered from the white clover, or, indeed, from any source, my average being less than 40 lb. per hive, as compared with 100 lb. last year; and, in addition, I have had to make up ½ cwt. of sugar into winter food, when none was required last year. I am glad to say that the surplus I did secure was first-rate in quality, taking first prize in the open class at our local show. This fact brought me new customers, so that I shall have no difficulty in selling my stock at a price that will give me a satisfactory return on the outlay. It is necessary in bee-keeping, as in other commercial undertakings, to calculate upon some bad seasons, and not to reckon up future profits by manipulating the figures of some "record" yield multiplied by an imaginary number of hives. Taking my four seasons together, I find I have spent a total sum of £43 12s. for stocks, hives, apparatus, jars, &c., the *et cetera* including charges of all kinds down to "postages." I have received in cash £57 12s.; I have honey in hand value £6, and bees, hives, and apparatus worth £20 at a low estimate; thus, I reckon my

outlay has returned me nearly cent. per cent., or, looked at in another way, it is a profit of about 28s. per hive, reckoning swarms as separate stocks.

Of course, this result has not been achieved by happy-go-lucky methods. Thought, work, and some enterprise, combined with the working motto, "Never leave to others what you can do yourself," have each had their place in producing the sum total of "success in a small way."

I hope next year to make some experiments with a view to solving the regulation of swarming question, as I should probably have had more honey this year if I could have kept the "fever" in check.

The weather has been extremely mild for a few days this week, and quite a joyful hum, reminding one of spring days, has been filling the air in the precincts of the apiary. With hives well stocked with bees and food, warmly packed down, and weather-proof, one can meet with equanimity whatever may be in store for us in the shape of "weather" during the opening months of the new century. I thank you, Messrs. Editors, for the help derived from your journals, and wish you and everyone of your readers a joyous Christmastide and a glad New Year.—W. H., *Brilley, Herefordshire, December* 14.

RURAL INDUSTRIES.

BEE-KEEPING, POULTRY-RAISING, AND MARKET-GARDENING.

[4175.] Will you kindly answer me the following questions on bee-keeping in your paper, the BRITISH BEE JOURNAL, viz.:—

I am a bee-keeper who has had some experience with bees, and am thinking of going in for bee-farming in connection with fruit-growing, poultry-farming, and market-gardening. Can you advise me with regard to the best place in the British Isles in which to follow the above occupation? I may say that while not without some capital I have a decent knowledge on the above subjects, having lived in the country before coming here.

I am an engineer by profession, at present engaged in a drawing office here. Do you think it would be wise for me to give up my present work and go in for the above? Personally I think it would, as my present work is too close for me, and is beginning to affect my health. Nor can it be said that I care for the work at all. In fact, I have been used to the fresh air and spending my time in bee-keeping and gardening, both being pursuits of which I am passionately fond. Therefore, while looking at the matter in this light, it may be said should I fail in the above (which I do not think likely), I have still my profession, which I could take up again to earn my living by. Thus, at the most, it would only be losing a bit of cash, which I should not mind if I gained any advantage from it as regards my health, and also learnt something more about matters which interest me very much. Of course, I want to make money at it if possible, and wish to stick to it for good. My age is twenty-two, and I have no ties and am perfectly free.—A. FORBES, *Wolverhampton, December* 17.

[It is by no means an easy matter to name "the best place in the British Isles for bee-farming." There are many suitable districts for the purpose, but when it is intended to combine poultry-raising, fruit-growing, and market gardening with bees the question is a very wide one. The reply to "Alfred Bell," on page 493 last week, covers part of the ground, and for the rest, we might say it would be advisable for our correspondent to seek out some reliable man well up in bee-keeping and honey-selling to join him in such an undertaking as that proposed. It would need more than one pair of hands for the work embraced in the several vocations embraced in the scheme as foreshadowed above.—EDS.]

(*Correspondence continued on page* 500.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Miller, whose apiary is shown on next page, is one of the busy workers who not only makes his own hives, but occupies a good part of his spare time in attending to the bees of several bee-keepers who require expert assistance in the more trying items of management. In this way we learn that he also renders help to beginners as occasion offers; so that he may be truly called a useful man in the craft. Of himself he writes at our request as follows:—

"My apiary is situated in the little country town of Egham, not far from the spot where King John signed the Magna Charta. In giving you a few particulars regarding myself as a bee-keeper, it may be well to say I feel more at home among the bees and the ringing of electric bells in the signal-box than writing for print. My love for bees, however, began very early in life, my mother's people being bee-keepers of the old-fashioned kind, using both the straw skep and the sulphur pit. When in my teens I had a great desire to keep a few hives, but had no convenience for so doing at the time, and as—like many more young fellows—I migrated to the great metropolis, there were small chances for locating hives there. In 1879 I moved to Egham, and, bearing in mind my mother's oft-repeated words about 'a rolling stone never gathering any moss,' I resolved to settle down there and take the first chance of carrying out my long-cherished idea of setting up a few hives of bees to gather the golden honey. Happening to pay a visit to my native place—in the heart

of the New Forest, near where William Rufus was accidentally killed by Sir Walter Tyrrell—in August, 1882, I then bought my first stock of bees, which same stock, I am sorry to say, came to grief before I arrived home. Disappointed, but not disheartened, I again went down to the old place in the following June, on the look-out for another stock, and as on Sunday following my arrival a swarm issued from a hive, I bought it, tramping six miles (with bees at my back) next morning to the nearest railway station. Although I got the bees safe home, and hived them all right, my second attempt at making a start ended as disastrously as the first. However, early in 1884 a bee-keeping friend came to my rescue by giving me a copy of the B.B. JOURNAL; from that I saw where to obtain the 'Guide Book.' I read this carefully, and after mastering most of the details with regard to bee-management I found it easier to sail a straight course. I would here offer a word of advice to the young beginner: First master the 'Guide Book,' then master the bees. In 1884 I made my first bar-frame hive, and all the hives seen in the picture are my own handiwork. The photo shows ten hives facing south and east, but there are altogether fourteen hives standing in the garden. Of these, some are worked for sections, and some for extracted honey. The one on the left with stone on roof being reserved for queen rearing in 1899. To account for my personal appearance alongside my 'bike,' with a couple of straw skeps fastened to a bamboo rod laid across the handle-bars, it should be explained that I had just returned from a journey of three miles with them, and had to take them to a friend three miles away. My son being an amateur photographer and at home at the time, he took a 'snap-shot' and I think the picture is fairly good.

"It is now six years since I had a natural swarm from my own bees, nor do I find any trouble in preventing my own bees from swarming, but with the bees of apiaries I have under my care it is more difficult, because of not having them under my eye every day. The apiaries referred to number in all twenty-eight stocks, and the furthest lot is five miles from me; but notwithstanding all this there have only been eight swarms from the whole in three years that I know of. In answer to the question, Has bee-keeping been a success with me, I may say the bees have produced the cash wherewith to buy the quarter of an acre of land that comprises my bee-garden, and the amount of pleasure I have derived from them money could not buy. I also have the silver medal of the B.B.K.A. together with several other medals and certificates, besides having won many money prizes at shows. Yet to-day I am still a learner in the art of bee-keeping, and ever shall be; but what little I know about bees I endeavour to convey to others around me, my motto being 'Live and Let Live.'"

MR. A. H. MILLER'S APIARY, EGHAM, SURREY.

CORRESPONDENCE.

(Continued from page 498.)

BIBLIOGRAPHY OF BEE-KEEPING.

ANCIENT BEE-BOOKS.

[4176.] In answer to the inquiry of your correspondent, "A. A. H.," as to lists of bee-books (page 481), he will find one in the Rev. W. C. Cotton's "My Bee-book," London, 1842. Mr. John Milton's "Practical Bee-keeper," published in the following year, also contains a "chronological list."

In the early days of the BRITISH BEE JOURNAL much attention was devoted to the bibliography of bees, Mr. C. N. Abbott, then Editor, availing himself of the above, among other sources of information (including an extensive library of bee-literature collected by Mr. W. B. Tegetmeier), and compiled the most complete list yet published of bee-writers and their works, both English and foreign. It may be found in B.B.J. for 1877, Vol. 5, June 1, and subsequent numbers. Having spent many pleasant hours with our old masters, I can give particulars of the books "A. A. H." refers to, as also of others equally interesting, and shall be pleased to do so on the conclusion of his papers, should our editors then think it desirable. — SOUTH DEVON ENTHUSIAST, *December* 10.

A TRUANT SWARM.

[4177.] While driving a stock of bees out of a box for a friend on November 1 I came across a similar stray colony to the one shown a short time ago in the B.B.J., under the heading "A Truant Swarm," in an oak tree (page 467). The swarm to which I refer was missed early in the season, and was not seen by the owner until I pointed it out to him. The bees had built their combs from back to front of the hive in a position exposed to the full force of the north winds, there being no protection beyond some lattice-wire put up to keep the cattle away from the hives. In this place the swarm had withstood the severe frost of a few nights before without any apparent injury. I managed to get the bees and combs away by cutting through the comb attachments, and as each was severed lifting it carefully and brushing off the bees. There was about 12 lb. of honey in the combs, and about twenty cells were occupied with sealed brood. Had I got the combs and bees away a few weeks earlier on, I feel sure there would have been double the quantity of honey, as the two outside combs on each side were empty, the contents being no doubt carried off by the bees of the hives located on each side of the stray swarm. I managed to get them away safely (not a very easy task, as I had no one to help me and it was raining fast all the time).

I also send you the prize list of the first honey show held in connection with our annual chrysanthemum show, which no doubt you will think satisfactory, being the first time honey there has been shown.

The honey was staged in what is known as the Mayor's parlour, and considering that this was an entirely new feature of the show the entries were good, and the quality of the honey excellent. A frame containing working bees created a good deal of attention, and the exhibition altogether was very interesting.

HONEY CLASSES.—OPEN.

Twelve 1-lb. Sections. — 1st, W. Cannaby; 2nd, W. J. Alliband.

Six 1-lb. Sections.—1st, J. Seeney; 2nd, S. Horton; 3rd, A. D. Melson.

Super of Honey (straw, wood, or bell-glass).—1st, A. D. Melson; 2nd, Rev. J. H. Dixon.

Six 1-lb. Jars Extracted Light-coloured Honey.—1st, S. Horton; 2nd, Miss B. Hyde; 3rd, W. J. Alliband.

Six 1-lb. Jars Extracted Dark-coloured Honey.—1st, W. Nash; 2nd, W. J. Alliband; 3rd, J. Seeney.

Beeswax, not less than 1 lb.—1st, I. Packer; 2nd, W. Cannaby; 3rd, W. J. Alliband.

J. SEENEY, *Stratford-on-Avon, December* 11.

NOTES FROM WYCHWOOD FOREST.

SENDING HONEY BY RAIL.

[4178.] Mr. Woodley's "note" referring to "honey sales" in a recent issue of B.J. (page 479) is a cheery one and speaks for itself. It means that taking the whole country over the season was not a plentiful one for honey, as those best able to judge have pointed out in your pages, consequently good honey is getting scarce and so should realise a better price. I think it also points to the fact that there is an increasing demand for good British honey, which is encouraging to those who follow the craft of bee-keeping.

The bees in this locality have had to keep within their hives, save for an occasional flight for some weeks past, notwithstanding the fact that the season has been a very mild one. So much has this been noticeable that birds' eggs have been found in nests, and I myself saw a daisy in flower in the field near here, while a friend found a mushroom growing last week. Still, the rain and occasional cold winds, alternating with a few hours of sunshine, have kept the bees indoors and at rest.

On the question of sending honey by rail I have come to the conclusion that the words, "Honey with care," no matter how plainly printed on label or package, do not convey a distinct enough idea to the average porter that he must not handle it roughly. That there are porters, and porters, at our railway stations most folk who have sent or received breakable goods sooner or later find to their sorrow. Only let a careless porter know that a package is sent at "agricultural rates," which

means at "owner's risk," so that no claim can be made for compensation, and bang! goes the box in handling, so that in the end one's beautiful honey is reduced to a pulp! It would be interesting and instructive to know what sort of warning on labels meets with the greatest success in avoiding damage during transit! Last night, while waiting for a train at a station, I saw a porter let a heavy iron wheel sharply down on top of a box of very weak construction marked "tea," with the result that the box was badly crushed, and I should say when the grocer went to remove his neatly put-up packets of tea he found a nice mess.—JOHN KIBBLE, *The Firs, Charlbury.*

A HINT TO DEALERS.

KEEPING SURPLUS-CHAMBERS WARM.

[4179.] May I suggest that if some enterprising dealer in bee-goods was to lay in a good stock of bags of some cheap yet warm material, large enough to cover both the body-box and two racks of sections, he would do a big business in the North of England and Scotland. Having worked for section honey in Scotland for years, my body-boxes being inside the usual outer-case, I year after year find the outside sections unsealed, which is due entirely to insufficient warmth. It is an easy matter to have the tops of racks well covered and warm, but to get covering for the sides, when it is urgently wanted in the heather harvest, is most difficult, owing to the amount of material required. The bags would be invaluable for the purpose, and should have a hole at the top to enable one to see the sections when necessary.—G. L. W., *Stirling, December* 11.

[We can confirm our correspondent's view regarding the importance of conserving the warmth of surplus-chambers by every possible means, both in the early and late periods of honey-gathering. Not in one case out of ten do the ordinary run of bee-keepers pay sufficient attention to this point, and we are sure it will greatly tend to improve their harvest if more care is taken to keep surplus-chambers warm when bees are storing therein.—EDS.]

CANDY-MAKING.

[4180.] I ordered some time ago a bag of pure cane sugar for bee-food through your office; but its arrival was delayed, so that I had almost completed feeding up, but tried some three or four small "boilings." The crystals were larger than I wished. My first trial gave the result I expected—crystallisation in the feeder; so that I had to use a little cream of tartar. This proved satisfactory. I have just made some bee candy, using cane sugar with good result, following Mr. Sadler's (Forfar) receipt and Raitt's, taking just thirty-two minutes to get correct consistency. I had intended naming this earlier, as others might be troubled the same way, with syrup going solid in feeders, but neglected so writing.—W. GOODALL, *Rastrick, Yorks, December* 14.

FUGITIVE PAPERS

ON ANCIENT BEE-BOOKS.

No. 7.—"THE TRUE AMAZONS; OR, THE MONARCHY OF BEES."

[4181.] Another fifty years takes us from Mr. Purchas to the author of this book, "Joseph Warder, of Croydon, physician," and they are eventful years in the progress of bee-keeping, for in them we are "transferred" from skeps to wooden hives; the sulphur-pit is discarded for a system of storifying which preserves the lives of the bees. The first edition was published in the reign of Queen Anne, and the book is dedicated to her. The dedication speaks of the queen-bee, and has some quaint comparisons of the two royal ladies: "But oh, what Harmony, what lovely Order is there in the Government of the Bees! The Queen-Bee Governs with Clemency and Sweetness, so doth Your Majesty; she is Obey'd and Defended, out of Choice and Inclination by her Subjects, so is Your Majesty."

Evidently bee-keeping was attracting a good deal of attention among educated people, as this book reached a sixth edition in 1726. Reference is made to a book by Mr. Gedde, which Mr. Warder treats with less courtesy than it deserved, for, though it may have been a poor one, he acknowledges the fact that its writer was "the first inventor of Bee-Boxes and Houses, and had a Patent from King Charles; but Gedde, and his Boxes, and Houses, have been long out of use, and forgot, only they have been amended and improved by others since. A Sixpenny Book he formerly writ, I have him by me, in Clothes as mean without, as his Matter is within." I think we should be rather inclined to honour Gedde, the inventor of the box-hive.

Mr. Warder is very severe on the author of another book lately published, with the title of "The English Apiary, or the Compleat Bee Master." He calls the author "an Ignoramus about Bees," and says, "We allow seven years to be time enough for learning any common Trade, yet that of being a Bee Master requireth much more, though I have served above four apprenticeships (in 1721) to this studious as well as delightful Trade, yet I find there are some things which I cannot thoroughly account for."

He alludes to "Mr. Rousden, the last author that hath writ about these deserving creatures," and to another book written by himself.

Turning now to "the true Amazons," one is struck at the great advance that had taken place in many ways in fifty years

As to feeding, he speaks of the little troughs commonly used and says, "This is a most per-

nicious Way, for two Reasons. First, for the Manner: If you would feed your Bees, 'tis to no Purpose to put in such small Quantities, which may do them harm, but can do them no good. For if the Bees come down in the Cold Weather to feed, they will be so chilled that scarce half of them will recover up into their Combs again. But secondly, 'tis a wrong Time, the Winter not being the Season (by any Means) for that Business." He advises September and April, sliding a plate under the hive at night to avoid robbing. He calls the common way of taking the honey "melancholy and, indeed, tragical."

I come now to the great advance—"The way of Keeping Bees in Colonies, or Boxes, with Glass Windows, without Killing the Bees." He gives accurate measurements for a bee-house and for the boxes, considering the former necessary lest the exposed boxes should suffer from the weather. The description occupies many pages, and the system is briefly this—to have a bottomless box with a slider in the top of it. When such a box is full in the spring lift it up and put another similar one under it; draw out the slider in the lower box, let the bees work down into it, and when the right time comes push in the slider and take away the upper box. The box is then carried away, the bees driven out and shaken on a cloth in front of their own hive. All the little details of the boxes appear most carefully thought out, and the reader is cautioned of the need of attention to them. The box is octagonal in shape—"an exact 8-square of 18 inches Diameter"—and 10 in. deep.

There are arrangements for ventilation and sliding doors at the porch. In the first furnishing of the bee-house, stocks in straw hives are to be placed in it. Then they are to be raised on the top of the wooden boxes, when "the Bees will immediately work down thro' the Hole in the top of the Box, in and out at the same Hole they were used to before, without any Lett or Hindrance." This is the very same principle—allowing for the difference of our modern hive—which our Editors again and again advise for "allowing the bees to transfer themselves." The wonder surely is that with these excellent plans laid down by Mr. Warder, nearly two centuries have passed by, during which the skep and sulphur-pit still reigned almost supreme.—A. A. H.

Queries and Replies.

[2562.] *A Budget of Queries.*—Will you kindly answer the following budget of questions? 1. I thought of dividing an ordinary hive into two compartments by means of a dummy on the "Wells" plan for queen-rearing. Do you think it practical? 2. Is the ordinary biennial red clover a good bee plant? 3. How many supers should be provided for each hive? I have at present only two. Is this enough? 4. Are English-Italian hybrid bees bad-tempered? 5. Can you give me the name of the "late-flowering lime"? 6. Do sycamore trees give good honey? I notice my bees take a great liking to them. 7. Which system would you advise me to adopt—Mr. Rymer's or the ordinary plan of doubling? My harvest comes almost entirely during the first two weeks in June, or when the clover is in bloom. 8. Last year I was unfortunate, but in 1899 (my first year) I bought a swarm on May 27, and although only hived on starters 1 in. deep, I took 38 lb. of honey from it; is this good?—Bickerton Pratt, Jun., *Caerleon, Mon., December* 10.

Reply.—1. If your query refers to no more than dividing an ordinary hive by means of close-fitting dummy boards to serve for nuclei, it may be done in that way, but for queen-rearing separate nucleus hives are preferable. 2. No. There is no comparison between red clover and the white (or Dutch) clover as a honey plant, the latter being always relied on for the main honey crop. 3. Two racks of sections or two shallow-frame boxes for every hive are quite enough to start with. 4. Hybrids are usually more liable to be cross-tempered than pure races. 5. Tilia petiolaris. 6. No. Sycamore honey is rather rank in flavour and aroma. 7. Mr. Rymer's system is specially adapted for a *late* harvest from heather, while your honey comes from an early source, viz., clover. 8. Yes, fairly good.

[2563.] *Confining Bees in Winter.*—Would you kindly give me your advice in the Journal *re* the following case:—Saturday, December 8, was very wet but mild, and the bees were out in considerable numbers, but I noticed when they alighted on the wet wood of the flight-boards, if they did not enter the hive at once they soon became chilled and fell to rise no more. Almost every day here for a long time back has been wet, so there must be a considerable mortality taking place in the different colonies. A neighbouring bee-keeper happened to call on the day referred to, and he advised me to close the hive entrances entirely till the spring. He said he always did this with a wedge of wood, after having bored two holes in it for air, and found that the plan answered very well. I expressed the opinion I did not think the Editors of the Bee Journal would approve of that plan, but I would write and ask for their advice. I closed all my hives (seven) with perforated zinc, each piece two or three inches long, and put a board against the front to keep off the sun and the light. Would you advise me to keep the boxes closed all winter, or should I open them and allow them to take their chance?—J. Aitkin, *Kinloch, Rannoch, Perthshire, December* 12.

Reply.—On no account do we advise confining bees to their hives during winter,

except, in some cases, to cover up entrances with snow (when the latter lies deep on the ground) until a thaw comes. Shade the hives to keep off bright sunshine, but leave entrances open.

2564.] *Making Bee-Candy.*—I should feel greatly obliged if you would give me your opinion of the enclosed sample of candy. It is the first I have made, and I do not want to use it till certain it would do. If not I must try again.—W. J. M., *Newcastle, co. Down, December* 14.

REPLY.—Candy sent is good for a first attempt. Had it been boiled for a minute longer and the mixture kept well stirred till it became stiffer in consistency, the granules would have disappeared and an excellent sample resulted. It is the "stirring and working" well that makes candy assume the "buttery" softness found in "fondant creams" used in confectionery. The candy now made, however, will do as it is for bee-food if given at once, before it has a chance of hardening.

[2565.] *Suspected Comb.*—I am much obliged for your replies to my questions with reference to honey and suspected comb given on page 464 of B.J. for November 22. I have hunted over the three frames I removed from my hive, and can only find the enclosed few pieces of comb, which appear to me to contain dead brood, and I am sending these to you in case it is sufficient, and you may be able to tell me if there is any trace of foul brood. In your previous reply you said you could not give an opinion, as the piece of comb sent had not contained any brood. Again thanking you for your information and trouble.—GLADYS (a Beginner), *Devonport, December* 13.

REPLY.—The brood in three cells of comb sent is chilled only; no trace of foul brood.

Echoes from the Hives.

Honey Cott, Weston, Leamington, December 17.—The sound that greeted me as I went up to take a look among the bees might truly be called "buzzy." The shade temperature was only 40 deg. at the time, but, the sun being very bright, it was warm in the sunshine, and the bees were out in large numbers. They were evidently enjoying themselves, as they have done very much all this autumn during the many nice and balmy days intervening between those that were foggy and wet. In taking a cursory glance over some of my stocks a few days ago, I noticed they were well supplied with food, so that if no further chance occurs they will be likely to come out all right in the spring.

By-the-bye, about two or three weeks ago I had a very interesting visit from a man who forty years ago emigrated from a village a mile or two away from here to America, where he had settled down in the State of Idaho, occupying a farm there and keeping an apiary of 500 stocks of bees. Their chief honey supply was gathered from alfalfa, or lucerne. If he has not already gone back to the States I shall try and look him up for the purpose of getting a few more particulars regarding his bee experiences. Wishing all bee-keepers a happy Christmas and a bright and prosperous New Year.—JOHN WALTON.

CONVERSATIONS WITH DOOLITTLE.

LOCATING AN APIARY.

"Good morning, Mr. Doolittle. I have come clear from Texas (by letter) to have a little talk with you about locating an apiary. I expect to start with twenty-five colonies, and wish to increase them to 100 during the years to come."

"Well, twenty-five colonies is rather too many to start with unless you have some knowledge already of bee-keeping."

"I have been studying the matter for three years to a certain extent, reading all I came across in the agricultural papers, and I have visited two or three bee-yards."

"This will be a help to you; but before entering the ranks of bee-keepers you should purchase one or two good books on bee-keeping, and read them till you are familiar with the subject. Then you should take one or more of the bee-papers."

"I expect to do this; but what I wish to know just now is, what is the best position in which hives should be placed?"

"In reply to this I would say that they should be perfectly level from side to side, and slope a trifle toward the entrance or front of the hive, enough to carry off the water when it rains. This helps the bees also to build straight combs, where a person allows the bees to build them, instead of furnishing them with frames filled with comb-foundation."

"Should hives be always thus fixed?"

"Fixing them in the way I have told you was on the supposition that the frames of comb run lengthwise toward the front side of the hive or entrance, as is considered best by nearly all of our leading apiarists. If they run parallel to the entrance, then the hive should be level both ways."

"Understanding that part, the next thing I wish to know is the distance the hives should stand above the ground."

"On this good authorities differ. Some say from 1 ft. to 18 in., and others think from 3 in. to 5 in. best."

"But what do *you* use?"

"I use a 1-in. thick bottom-board, with cleats 2 in. thick nailed on the under side of it, which rest on the ground and prevent the bottom-board from warping. This raises the hive 3 in. from the ground, that being, to my mind, the distance it should be."

"What reasons have you for that distance

in preference to having the hives raised 18 in. from the ground?"

"The reason for having the distance so little is that on cool windy days in early spring the bees easily reach the hive; while where the distance is great many would fail to get home, being blown down to the ground, or, in a benumbed condition, drop under the hive, where they soon die from exposure. In this way many bees are lost just at a time when they are of the greatest value to the apiarist; for one bee in early spring is of more value than 100 after the honey harvest is past."

"Are there any objections to having the hives thus near the ground?"

"The objections to the low bottom-boards are that toads will get to the entrance to the hive in the evening, and often catch the bees; and ants annoy them more; but I consider neither of these to be equal to that which comes through the loss of bees from the high stands, as toads can be caught and carried away, and the ants poisoned; besides, these two last do not affect the bees at all till they get prosperous in numbers, after warm weather comes."

"That looks reasonable. And now I wish to know how near the hives should stand to each other?"

"My apiary is laid out on the hexagonal plan, the hives being 10 ft. apart in the rows from centre to centre, and the rows 10 ft. apart. Some place them closer, or as near as 5 ft.; but I think that, where the ground can be had without too much expense, the saving of queens when going out to be fertilised, and less mixing of bees, more than pays for all the extra travel which the distance makes."

"But how do you manage to secure the hives in the hexagonal form?"

"To get the hives arranged in the hexagonal form, get a line of the desired length. In your case it should be 100 ft., having a pointed stake tied on each end. Five feet from the stake at one end tie to the line a white thread or string, 4 in. or 5 in. long. Five feet from this white thread, tie a red thread or string, and then a white one 5 ft. from the red, and so on till you have red and white threads alternating at 5 ft. from each other the whole length of the line."

"Having this line fixed, how do you proceed?"

"The line is to be stretched where you wish the first row of ten hives to stand, then you are to stick a little stake at every white thread. Now move the line ahead 10 ft., when you will stick the little stakes at the red threads. Then move ahead 10 ft. again, sticking the stakes at the white threads, and so on till you have stuck the 100 stakes for the stands for your 100 hives or colonies you expect to have in time. Having your stakes all stuck, level off the ground about each stake till you have a nice, broad level place ready to set a hive on at a moment's notice at any time. Having it completed, and each stand occupied with a hive of bees, if you are like me you will consider that for convenience and beautiful appearance this plan is superior to any other."

"One more item, and I'll not bother you further. Toward what point of compass should the entrance face?"

"On this point there seems to be a difference of opinion; but here at the North the majority of our best apiarists think that no hive should face north of an east and west direction."

"Which way do you have yours face?"

"I have mine face south. But some of our best bee-keepers in this State think south-east should be the way, for then the morning sun will entice the bees out to gather honey early in the day. However, I see little difference in favour of any southerly direction; but the facing of hives to the north in this cold climate is objectionable, especially in winter, as it nearly precludes the flight of the bees during days when they would otherwise fly, and allows the cold north winds to blow in at the entrance, which is by no means helpful to the bees at any time of the year, unless during the extreme heat during the month of August."
—*Gleanings (American).*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. A. VARIAN (Dublin).—*British v. American Methods of Spacing Frames.*—1. The letter of Mr. E. H. Taylor (4161, page 480), to which our correspondent takes exception, merely serves to show that the impression conveyed by reading Mr. Varian's letter on "Spacing Frames" (page 468) was much the same as our own view expressed in a foot-note on the same page. This being so, it is hardly worth while again going over the subject.

C. H. INGLEBOROUGH (Lancaster).—*Honey and Wax Samples.*—1. Of the two samples No. 1. is best, but, while both are fairly good honeys, neither is quite up to "show" standard. 2. The same may be said of wax sample. It is good enough to exhibit in a class for "wax cakes suitable for the counter trade," but would not stand very high in a class where cleanliness and colour of wax are the main factors. Purity, colour, and aroma are the main points considered when judging.

R. W. A. S. (Radford, Stafford).—*Reliquefying Granulated Honey.*—If the tin in which the honey now is be immersed in a vessel containing water heated to about 180 deg. Fahr., it will gradually become liquid and clear in colour, with little or no appreciable injury to its flavour. It will take some time to reliquefy a 28-lb. tin of solid honey, and the tin will need raising a little to allow the water to pass under it.

Editorial, Notices, &c.

A WORD IN SEASON.

Owing to the pressure on our space through the insertion of title-page and index in this issue, we are compelled to hold over several interesting letters already in type, together with our annual "few words" to readers until next week. We then shall start another year's journey enconraged by quite a wallet full of cheery letters received during the last few days, expressing all sorts of good wishes for our Journal, and for which we tender very sincere thanks.

Things have not looked too hopeful during the past year of stress and strain in all directions, but bee-keepers are not pessimists, and so we look forward to seeing things (bee-seasons included) becoming brighter all round with the early days of 1901. Anyway, thanks mainly to our willing helpers, the BEE JOURNAL has not suffered either from "leakage or want of fuel to keep the engines going."

INDUSTRIAL EXHIBITION, EDINBURGH.

PRIZE LISTS FOR HONEY.

A Scotch reader of the B.B.J. writes, under date December 18, as follows :—

"Seeing the complaints in recent numbers of the B.B.J. regarding the management of the honey show held in Waverley Market, Edinburgh, I send you the catalogue with names of prize-winners. I thought some of your readers who were exhibitors would like to see it in print."

[In compliance with the request we print particulars, as desired from catalogue.—EDS.]

The Rev. J. W. Blake, Gorebridge, Mr. H. Patterson, Corstorphine, and Mr. H. Patterson, Dalkeith, officiated as judges of honey, the following being their awards :—

Super of Honey in Bell-glass (or Wood and Glass).—1st, John Ross, Dumfries; 2nd and 3rd, John Clark, Muirhouse, Carnwath.

Three 1-lb. Sections.—1st, John Ross; 2nd, John Clark; 3rd, H. Wood, Paradise, Lichfield, Staffs.

Three 1-lb. Jars Extracted Honey.—1st, W. Patchett, Thoresway, Lincs.; 2nd, John Ross; 3rd, G. Spearman, Andoversford; v.h.c., J. B. Lamb, Harrow, near London, and John Ross.

Super of Heather Honey.—1st, John Ross; 2nd and 3rd, John Clark.

Three 1-lb. Sections of Heather Honey.—1st, 2nd, and 3rd, John Clark.

Three 1-lb. Jars Extracted Heather Honey.—1st, Thos. Pate, Milnathort, N.B.; 2nd, and 3rd, J. Renton, Crawfordjohn, Abington, Lanark; v.h c., John Clark.

Display of Honey.—1st, John Clark; 2nd, Thos. Pate; 3rd, John Ross; v.h.c., John Clark.

Bees in Observatory Hive.—1st, John Clark; 2nd, John Ross.

THIRSK AND DISTRICT B.K.A.

A meeting of bee-keepers of Thirsk and District was held in the Assembly Rooms, Thirsk, on Wednesday evening, the 19th inst., to consider, and if thought desirable, to form an association. Mr. R. T. Tennant, who occupied the chair, explained the benefits that would accrue therefrom, and after some discussion it was carried unanimously to institute a society to be called "The Thirsk and District Bee-keepers' Association." Rules were drawn up, and after it had been decided to become affiliated to the Yorkshire Bee-keepers' Association, the following officers were elected :—

President: J. Grant Lawson, Esq., M.P. Vice-Presidents: R. Bell, Esq., J.P., Colonel I'Anson, J.P., E. R. Turton, Esq., J.P., G. S. Thompson, Esq., and J. S. Richardson, Esq. Secretary and Treasurer: Mr. R. T. Tennant. Committee: Messrs. H. F. Garnett, J. W. Hall, J. Lawn, C. Moore, R. Ness, and W. E. Nutley.

Upwards of twenty names were submitted to the meeting as promising to become members, and altogether the association was launched with every prospect of a successful career.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

SOME MEDITATIONS.

RETROSPECTIVE AND PROSPECTIVE.

[4182.] The quietness of the present season lends itself to meditation, both retrospective and prospective. As we look back on the year and century so quickly vanishing away, amidst the mistakes we can recall to mind, we may feel thankful that we enjoy numerous advantages which former generations of bee-keepers never dreamt of—the fruits of the labours of hundreds of minds which have been

devoted to the pursuit, not the least of which are the mediums through which they have become ours, especially the BRITISH BEE JOURNAL.

How different things were when I started bee-keeping, more than twenty-five years ago! Modern hives, foundations, extractors, sections, queen-excluders, super-clearers, &c., were either in their infancy or not invented.

Again, when we consider how easy it is for novices now to steer their course safely, guided as they are by sound first principles and enlightened by books, lectures, shows and associations, the advance in apiculture appears to have been simply marvellous.

Yes, our thanks are also due to the editors of our bee papers for the share they have taken in bringing about this splendid progress; not that they could at all times see "eye to eye" with us.

If their motto has generally and properly been *festina lente*, some have thought that their pace had occasionally been too slow, and there was danger of sticking in the mud. For my part I think our present position requires us all to continue to keep an open mind, not only as regards inventions, but in order that in methods and apparatus we may keep abreast of the times, if we cannot in front. This may compel us to retrace our steps here and there, and perhaps slightly alter our course; but in the end we shall attain to greater success.

For instance, I read a few weeks ago the report of a bee-keeper who tried shallow-frames for brood instead of the B.B.K.A. standard. Now there are a few I know who would like to have the experience of any who have lately tried frames *larger* than the "standard." Many who transport their apiaries to the moors must have read our friend Mr. Rymer's reports with much interest, though their case is not quite similar to his; he lives in the heart of the moors. On hearing of Mr. Rymer's good success by doubling, it appeared to me a strong argument in favour of a larger frame, for it would decidedly be more convenient to travel with bees in one compartment than to fasten two chambers together. Then there may be others living in different districts who may have more to say on it.

Anyhow, I cannot agree with those who think that because the standard frame was adopted after due deliberation by the ablest bee-keepers in the seventies there is an end of the argument. No; generally because light and knowledge have increased considerably since then; and especially because our method of working has in at least two respects totally changed.

Formerly most of us used only strips of foundation, such as it was; now we fill the hives with the perfect weed foundation. Formerly the introduction of queens was extremely risky and but little practised; now the colonies are frequently re-queened. The bees, therefore, should do more work and more quickly, and if so, may they not in some places require a larger frame? I would add that I am myself fairly satisfied with the standard frame, and have at present no idea of changing it. But I am only trying to keep what I am exhorting others to do, an "open mind."

On another point I cannot say the same, and, like many others, after repeated trials and as many failures, I have become a thorough radical. I refer to the "puzzle boxes" ($4\frac{1}{4}$ by $4\frac{1}{4}$ by 2). I cannot understand how any intelligent bee-keepers can tolerate them.

Without going into the pros and cons, are we not nearly all convinced of the fact that the bees take to the shallow frames more readily and do quicker and better work in them than in the present sections? If so, is not the problem simply this?

Can we have sections approaching more closely the conditions of the shallow frames? I believe we can, to our great advantage. I understand some in America secure far better results from the 5 by 4 by $1\frac{3}{8}$. I should prefer one 5 by $4\frac{1}{4}$ by $1\frac{1}{2}$ or 5 by $4\frac{3}{8}$ by $1\frac{3}{8}$; I assert that either of these sizes would be more suitable to our climate. Being narrower the bees could work out, fill, ripen, and seal them in a fortnight of favourable weather. Fewer would be left incomplete at the end of the season; probably we would not have to extract or break up half the number that we do now. Having larger surfaces they would look handsomer, and, being narrower, the darker honey would look lighter; and, as I think I would advocate a "plain" section, the receptacle would look fuller.

Above all, such a narrow comb would be more natural for the bees to work out. You know, sirs, how in former seasons my aim was to produce the thickest combs, which no doubt are the handsomest and fittest for the show bench; but I noticed, except in the best seasons, that the bees took to them reluctantly and finished them very unevenly; so now if I wanted a super completed rapidly I would give ten frames rather than eight. The same applies to sections.

Now if a section was selected of such a size that three of them could just fill the shallow frames, I think our requirements would be supplied.

We are much indebted to our Junior Editor, Mr. Carr, for the introduction of the shallow-frame, which we have looked upon as his child, and I was hoping he would have in time a worthy grandson in the shape of a section for it.

But I confess I was grievously disappointed by what appears to me his strange conduct in going out of the way to adopt the present miserable section and actually having a special nurse ("W. B. C." frame) to tend it.

With hearty good wishes to all for the coming century. May it bring many prosperous seasons.—RICHD. M. LAMB, *Burton Pidsea Rectory, Hull, December* 3, 1900.

(*Correspondence continued on page* 508.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Woods—seen at work in his bee-garden illustrated below—is so well known among all who take any interest in bee-shows as to need no introduction beyond what is conveyed in the following notes regarding himself and his bee-keeping. He says :—

"My first connection with bees came about in this way :—A labourer who lived at the bottom of my father's garden cut down a willow-tree (in the hollow trunk of which a stock of bees had located themselves) and set it up in our garden, as he had no room in his own. The bees did well in their queer hive, fed up to required strength. After this I caught the bee-fever badly and am not convalescent yet. In 1889 I started exhibiting honey at shows, and took 2nd for run-honey on my first attempt. In 1890 I took 1st and the B.B.K.A. silver medal at our county show, besides several other prizes. The next year was still more successful on the show-bench. I then ventured an exhibit at the Dairy Show, and was unplaced at my first attempt; but, determined not to be cast down, I took stock of what I saw, and, working up to the higher standard, have scarcely looked back since. One of my greatest treats is to visit the dairy show and shake hands with bee-keeping friends from all parts of the country I meet there.

MR. W. H. WOODS APIARY, HEMINGFORD GREY, ST. IVES, HUNTS.

and later on I helped him to hive the swarms (into straw skeps, of course), put on bell-glasses, and take them off, &c., when full. In this way I took a fancy to bee-work, and soon had invitations to hive swarms for our neighbours who kept bees, but did not like to handle them themselves. Eventually I started on my own account with a swarm given me by our then vicar's wife, as a reward for hiving swarms for her. During the winter of 1886 and 1887, I attended a lecture in the schoolroom given by that pioneer of modern bee-keeping in Hunts., Mr. C. N. White, and under his guidance and tuition I began in the following autumn on the modern system with two frame-hives stocked with driven bees, and

"The long double hive in the front of the picture is a home-made improved 'Well's,' but the 'improvement' did not work. The hives seen are not all I possess, but I draw the line at thirty-six stocks, that being as many as I can manage with comfort. Although a wheelwright by trade, working with my father, I rarely make my own hives, for after working among wood all day one does not take kindly to it again at night. One of my favourite hives for single-handed work is J. H. Howard's 'B I.' I had this hive open looking for a young queen when the photo was taken, but as it has only a 15½ in. top-bar, it is not likely to be a general favourite. The high trees at the back of the picture are limes, of

which we have an abundant quantity in the district. My garden is merely divided from my neighbour's by a 4 ft. wire fence, but during the whole time I think only two stings have been inflicted. Of course, I give them some honey 'to rub on the affected parts' so that hitherto there has been 'no swelling.' Besides the bees I make a speciality of show-gooseberries and currants and have been as fortunate on the show bench with these fruits as with honey. But, besides these hobbies, I have my hands pretty full as district Secretary of the Hunts B.K.A., Vice-Chairman of the Parish Council, Member of the School Board, Hon. Secretary of one of the Local Political Associations, and a delegate of the football club. Finally, I have to thank the Editors of the B.B.J. for providing the seasoning to my breakfast every Thursday morning, as it is to them and the other contributors to this excellent JOURNAL that my success is largely due. I hope that it will still continue to be a power in the bee-world and that the commencement of the twentieth century may be a record one for bee-keepers all round. Although situated in the valley of the Ouse, the district is a fairly good one for honey as there are plenty of fruit trees around and a good breadth of clover is grown."

CORRESPONDENCE.

(*Continued from page* 506.)

MR. GEO. WELLS'S ANNUAL REPORT.

[4183.] Having now finished up all bee-work and business for the year, I send—in accordance with my habit for years past—a short account of my doings for 1900, as I have reason to know that some bee-keepers are expecting to see my annual report as usual :—

The bees started work in real earnest about the end of March and stored more surplus honey from the fruit bloom than I ever remember before. Then came some wet and dull weather, during which time very little was added to the surplus-chambers until the second crop of sainfoin came on, when they brought in honey more rapidly; following this the melilotus (or Bokhara clover), along with the Chapman honey plant came into flower and surplus-chambers advanced very rapidly for a time; but, taking the season altogether, the harvest has been much below the average in this district. Some few bee-keepers have secured a fair amount of surplus, while the majority seem to have got very little and a few have failed in getting any at all. From my own six hives (double-queened ones of course) I took seventy-three well filled 1-lb. sections and 618 lb. of extracted honey, or a total of 691 lb. I also got 19 lb. of beeswax. All the comb honey sold at 10d. per section, and of the extracted honey about half was sold at 8d per lb. and the remainder went in bulk at 6d. per lb. About one half of the beeswax realised 2s. per lb., the remainder being still on hand. My financial account with the bees therefore stands as follows :—

353 lb. extracted honey at 6d.	...	£8	16 6
265 lb. ,, at 8d.	...	8	16 8
73 1-lb. sections at 10d. each		3	0 10
9 lb. beeswax at 2s. per lb.		0	18 0
10 lb. ,, not sold (say 1s. 6d.)		0	15 0
		£22	7 0
Deduct total season's expenses	...	2	18 6
Balance for labour	...	£19	8 6

Or a net profit of £3 4s. 9d. per hive.

The honey used in my own house and that given away to friends is reckoned in with that sold at 8d. per lb.

In view, then, of the general reports of the past season in Kent I have every reason to be satisfied with what my bees have done for the year 1900.—GEO. WELLS, *Eccles, near Aylesford, Kent, December* 13.

BEE-KEEPERS' "DEFENCE FUND."

[4184.] Referring to Mr. W. Woodley's remarks in B.B.J. of the 6th inst. (page 479) on the subject of a bee-keepers' "defence fund," I venture to ask: Would it not be good policy to approach the Insurance Companies and endeavour to get them to accept policies similar to those for compensating railway passengers for accidents of all kinds? I take it that bee-keepers would not mind paying a fair sum as premium in such a case. Could not a poll be taken (through the Bee Journals) in order to ascertain the feeling of bee-keepers throughout the country on the subject? Trusting that some scheme will be formulated before another season.—H. T. WRIGHT, *March, Cambs, December* 10.

COLONIAL HONEY.

THE NEEDS OF OUR HOME TRADE.

[4185.] With reference to the proposal of the Hunter River Bee-keepers' Association, Australia, to send to this country fifty tons of honey next year, as mentioned in a recent number of the B.B.J. (page 465), I think we need have very little fear of that proposal (even if fully carried out) doing any injury to British bee-keepers. I rather incline to the opinion that it will do a certain amount of good. If it causes our honey producers to look to their methods, or *want of method*, it will do good. I think it is pretty generally known that much of the foreign honey as brought over here is badly strained, and often contains legs of bees and whole bees. But few would credit British bee-keepers with sufficient incapacity to allow of their being quite so careless as that. But there is so much uncertainty as to "capacity" in dealing with honey, that bee-keepers cannot rely upon

each other if one wants to purchase from another to fill orders after his own stock is sold out. It is seldom safe to buy honey in bulk and send it straight off to a customer. When discussing this matter with one of our principal dealers in English honey the other day, I learned that this is his experience too. Bee-keepers ought to be able to rely upon each other in these matters, and I think we should also have some sort of organised methods in the disposal of produce. We have associated effort devoted to the production of honey, but no sort of organisation for its disposal. The consequence is that everyone is for himself, and in a poor season like 1900, with comb-honey hardly obtainable at the end of the year, nobody ventures to raise prices at all, and if we are favoured with a good season in 1901, we may expect a further fall in prices.—WM. LOVEDAY, *Hatfield Heath, December* 20.

TITS AND BEES.

MAKING ARTIFICIAL SWARMS.

[4186.] It may be of interest to B.J. readers to know that during last summer I had a nest of tits (*parus major* or great tit) in one of my strongest hives. The birds obtained an entrance through the displacement of one of the 'cones" covering the ventilation holes in the hive-roof. The nest was formed in the hay used as packing above frames of brood-nest; and it would appear that the warmth derived from the brood-nest below, along with the heat from the sun overhead shining on the roof, had hatched the eggs without the bird sitting on them at all during the day time. I say this because of never having seen the bird on the nest during the whole time of incubation. I may also observe that I never saw the tits kill or carry off bees while they were under my observation.

Another unusual thing happened in my apiary this last season, viz., a case of queen flying back to the original hive after making an artificial swarm. The particulars are as follows:—On July 5, I removed the queen and some frames of brood, when making an artificial swarm, from a hive which I will call No. 3. These were placed in a hive numbered 16. Two days later (*i.e.*, July 7) I introduced an Italian queen to No. 3 Nothing further was done till July 16, when I made an examination of No. 3 to see how the Italian queen was getting on and to my surprise found the Black queen had returned and was on the comb, but the Italian had disappeared. I again removed the Black to another hive, and after losing their queen No. 3 stock built queen-cells and reared several queens. Finally I looked over the combs of No. 16, and, as expected, found it queenless, thus proving that the queen had gone back to her original hive, No. 3.—E. P., *Langton, Tunbridge Wells, December* 18.

FUGITIVE PAPERS

ON ANCIENT BEE-BOOKS.

No. 8.—SWAMMERDAM.

[4187.] Although these papers deal only with English books, it is impossible to get an accurate idea of the advance of apicultural knowledge without reference to this great foreign naturalist, particularly as his works were translated into English, and thus had a direct influence on later writers.

While English bee-keepers were making a steady advance along the line of practical work, and devising plans by which the honey could be secured without sacrificing the bees, foreign scientists were making great advances in the knowledge of the nature of the bee itself, and solving some of the problems surrounding the queen's life and work. Swammerdam's book exists in a folio edition, the copy in the British Museum being dated 1758. The exact title is "The Book of Nature; or, The History of Insects." It is dedicated to the Earl of Macclesfield, President of the Royal Society; and the list of subscribers is headed by "His Royal Highness George Prince of Wales, His Royal Highness The Duke, His Royal Highness Prince Edward." At the date 1758 these must have been the king's grandson, afterwards George III., the Duke of Cumberland, the king's son, and Edward, brother of George III. I mention this as showing what an important book Swammerdam was. He was born at Amsterdam in 1637, and died in 1680. He was a marvellous anatomist, and managed to dissect the minutest insects. It appears from the life prefixed to the English folio that his works were first published at Leyden in 1735 owing to many difficulties, so that "this Valuable treasure lay hid and concealed for a long time." The English edition was therefore issued a very few years after the first publication of the work abroad.

It will be remembered that the authors already reviewed considered that the drones were males and the workers females, laying eggs, while the queen was the ruler who laid eggs to produce "princes." "Swammerdam" is, I believe, the first to declare that the queen bee is the mother of all the bees in the hive.

This was a revolution which must have taken people entirely by surprise, and it laid the foundation for much subsequent correct knowledge.

In the folio, Part I., there is a "Treatise on the History of Bees," which occupies from p. 159 to p. 236. It says, "I propose in my book of insects, published in 1669, at some other time to treat expressly on the structure of insects, and in that work to give the particular history of bees." Thus it would appear that though a work of his was published in his lifetime, the treatise about bees did not come out till many years after his death, though in his earlier book he has said

"by way of anticipation that the King, as commonly called, was a female."

On p. 169 is the following important statement, "From one female, which is the only one of that sex in the whole hive, are produced all the three kinds of bees, in nearly the following proportion, ten, twelve, or fourteen females, some thousands of the labouring bees, and lastly some hundred males; more or fewer are occasionally found in the hives of each kind." He considered the common bees to belong to neither sex, "though, however, with respect to their structure and disposition, they approach nearer to the female than to the male sex." These two quotations show how far Swammerdam had advanced on the path of truth. He had also grasped a fact mentioned in Mr. Cowan's paper, printed in our JOURNAL of December 13, that "Honey is essentially a product of the bee, and not of the flower," for he says, p. 173, "But though honey is collected, not made, by the Bees, being first prepared by Nature herself in the parts of flowers, and is only taken into their bodies by the proboscis; yet I do not doubt but it is changed, digested, and converted into durable and good food for the young not only in their body, but even in the proboscis or trunk itself. This subject it would be worth while to examine more strictly."

Another notable advance is regarding wax. Before his time pollen was considered to be the wax gathered straight from flowers. He details many interesting experiments he made to prove that this was wrong. He did not advance far enough to know, as we do, the true formation of wax, but, like all truly great men, refused to dogmatise where he did not certainly know. Though he thought that the globules of what he accurately calls bee bread "might, when chewed or broken with the Bees' two teeth and mixed with the saliva," or in some other way form wax, he adds it "is a matter which still remains to be investigated."
—A. A. H.

P.S.—On page 481 I mention Mr. Musset. It should have been Muffett, or Moufet. He was a learned physician who died about 1604, but his writings, founded on those of Sir E. Wotton, Conrade Gesner, and others, were not published till 1634. The mistake in spelling was mine, not the printer's.

Queries and Replies.

[2566.] *Mice in Hives.*—For some time past I have found a number of dead bees in front of one of my hives. I therefore examined the hive on the 17th inst., and found a mouse inside. It ran between the frames into a box of candy in which the bees were feeding. The box had a glass top, and in a few minutes the poor mouse was dead, covered with stings. This morning (the 20th) I found fifty or sixty bees just outside; some were dead, and a few had just a little life in them. There is plenty of sealed food in the hive, and the bees cover about four frames well. 1. Was the mouse in any way the cause of bees dying, or was it foul brood? 2. Are they likely to live through the winter? 3. Is the enclosed sample of candy all right? 4. Are the bees sent in box pure Carniolans? I bought the queen for pure last June.—W. COOPER, *Ryde, Isle of Wight.*

REPLY.—1. No. 2. Much will depend upon the queen and the healthiness or otherwise of the bees, as the latter are weak in numbers. 3. We are sorry to say the candy is far from being "all right;" in fact, it is so strongly impregnated with carbolic acid as to make it unsuitable for bee-food. 4. Bees sent are hybrid-Carniolans.

"PRESS CUTTINGS" ABOUT BEES:

INTERESTING, USEFUL, AND OTHERWISE.

Analysis of Beeswax.—The following details as to the effect of various adulterants on pure beeswax are given in a paper dealing with the tests of the German Pharmacopœia for that substance, by K. Dieterich. Although these details give nothing new, they are so well tabulated as to be worth reproducing:—

Adulterant.	Sp. Gr.	Acid Number.	Ester Number.	Saponification Number.	Iodine.
Paraffin ..	raised	raised	raised	raised	lowered
Stearic acid	raised	raised	raised	raised	raised
Ceresin ..	low'r'd	low'r'd	low'r'd	low'r'd	lowered
Carnauba wax	raised	low'r'd	—	—	no infl'nce
Japan wax	raised	raised	raised	raised	no infl'nce
Lard	low'r'd	—	raised	raised	raised
Tallow ..	low'r'd	raised	raised	raised	raised
Resin	raised	raised	low'r'd	raised	raised

We have on a previous occasion commented on the statement that paraffin produces the effects credited to it in the above table, which surely must have been continually reproduced through some original slip, for it is impossible for this substance to increase the acid, ester, and saponification numbers.—*Chemist and Druggist.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. B. C. (South Devon).—*Dead Queen-Bees Wanted.*—We cannot do more than advise you to advertise in our pages the price you are willing to pay for queens. In some seasons we receive a good few for examination, and throw them away when done with, but, of course, none such are available in the winter season.